ARCHITECTVRE

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THE REGISTRATION OF ARCHITECTS.

THOUGH in a dwindling minority, the assailants of the Architects' Registration movement are still in evidence, and are never tired of repeating old and fictitious objections to the measure, including the well-worn argument that registration will not insure the inclusion of the artist, and that it is inimical to the fine-art view of the profession. But what other kind of test is not equally open to the objection? Will it be asserted that the artistically disposed student will be better studied under any examination test that it is possible to be made? Registration will do all that examination can be supposed to do—namely, record the fact that the young practitioner has the minimum of knowledge and attainments, and is capable of practicing as an architect, and protecting the interest of his client and the public. It will not touch art. It will neither exclude nor include the born artist. Will the measure shut out those with art capabilities? is a question that seems to concern a great many of the younger men in the profession. There may be a few to whom a test in any form is objectionable, and who will not submit themselves to any examination; but this will not be a bar to the really competent student who has a true artistic perception, and who desires to become an architect. Of course, there are many young men who enlist in the profession who have no vocation for it, who shrink from the hardships and discipline it entails, the drudgery of office work in its various manifestations, and of whom it may be said that the profession would not suffer from their loss. That a few artistically-minded men will not readily submit themselves to any test, from the idea that an examination in construction and sanitary matters will be raised to more importance than it deserves in the eyes of the public, may be likely; but we do not think this deterring influence will prevail.

The public look to the professional architect to give them well-built and sanitary houses, and registration would aid the profession to deepen this confidence. The artistic functions are on a different footing. Those who think the "registered" practitioner, because registered, will produce the ablest artistic design, will, of course, soon find out their mistake. In these matters, of course, the confidence or applause of the public is not worth anything at all, and we are ready to endorse the remark that, in so far as the confidence and approval of the public are obtained, "it is a proven token of shallowness of thought and vulgarity." Public confidence in a well-built and equipped house is reposed entirely in the architect; the public do not pretend to know anything about construction or the science of hygiene in building; but they naturally look to the architect, and they desire some guarantee of his attainments. What they approve or applaud in design is another matter. Here every-one thinks he can judge for himself, though he is grievously mistaken. It is only the "clap-trap" professional or charlatan who cares one iota about public approval in such matters; and we therefore agree that it is humiliating to the aim of a true artist to find himself the "victim of the applause of the public." But this is what no one thinks of obtaining by registration, which is for a totally different object.

REGISTRATION BUREAU FOR DRAUGHTSMEN.

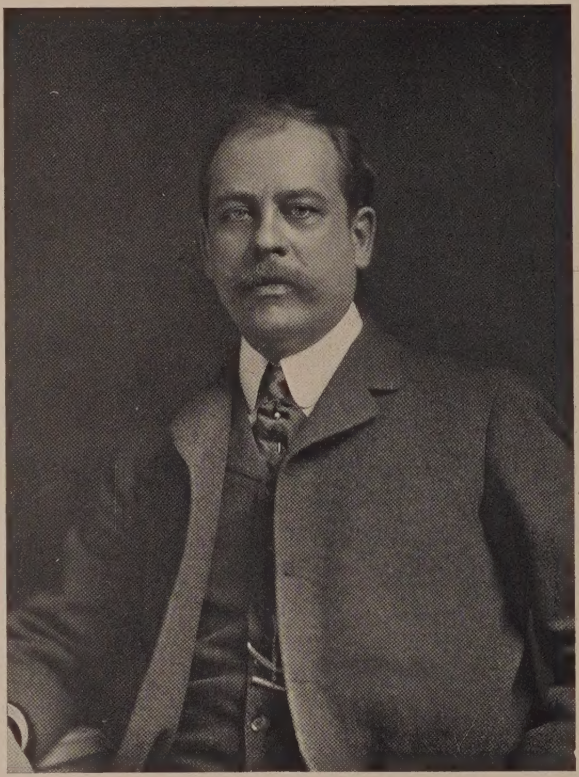
This bureau is established for the use of architects wanting draughtsmen and draughtsmen wanting positions, free of expense to either party.

All draughtsmen wishing positions may register by answering the following questions:

Name and address?
Age?
Married or single?
Experience?
Name and address of last employer?
Salary expected?
References?

All architects wishing draughtsmen are invited to use this bureau.

With the trend and value of the remarks on examinations we find less fault. The votaries of registration do not, as supposed, imagine that examination will secure the quality of art; nor do they look so much as their enemies think on their being able to exact the full five per cent. Culture and taste and ability to think cannot be secured or tested by examinations, and nobody ever thought they could. We are quite ready to admit that the qualities which examination deals with are powers of memory and retention of facts; and the whole tendency of modern education is to cultivate the memory at the expense of the process of thinking, and we generally find that the most retentive memory is often accompanied by a want of fertility of mind and imagination. The general opposition to registration is founded on a complete misapprehension of its intention as a means of satisfying the public that every man who calls himself an “architect” is at least competent in the elementary principles of construction and sanitation, without pretending to be in any manner superior as an architect, or as many who qualify by professional examinations now appear to believe. The measure, in fact, is intended to give the least distinction derivable from an examination test, so as not to make professional examination, as it is now, an invidious distinction, or a proof of all-round efficiency.



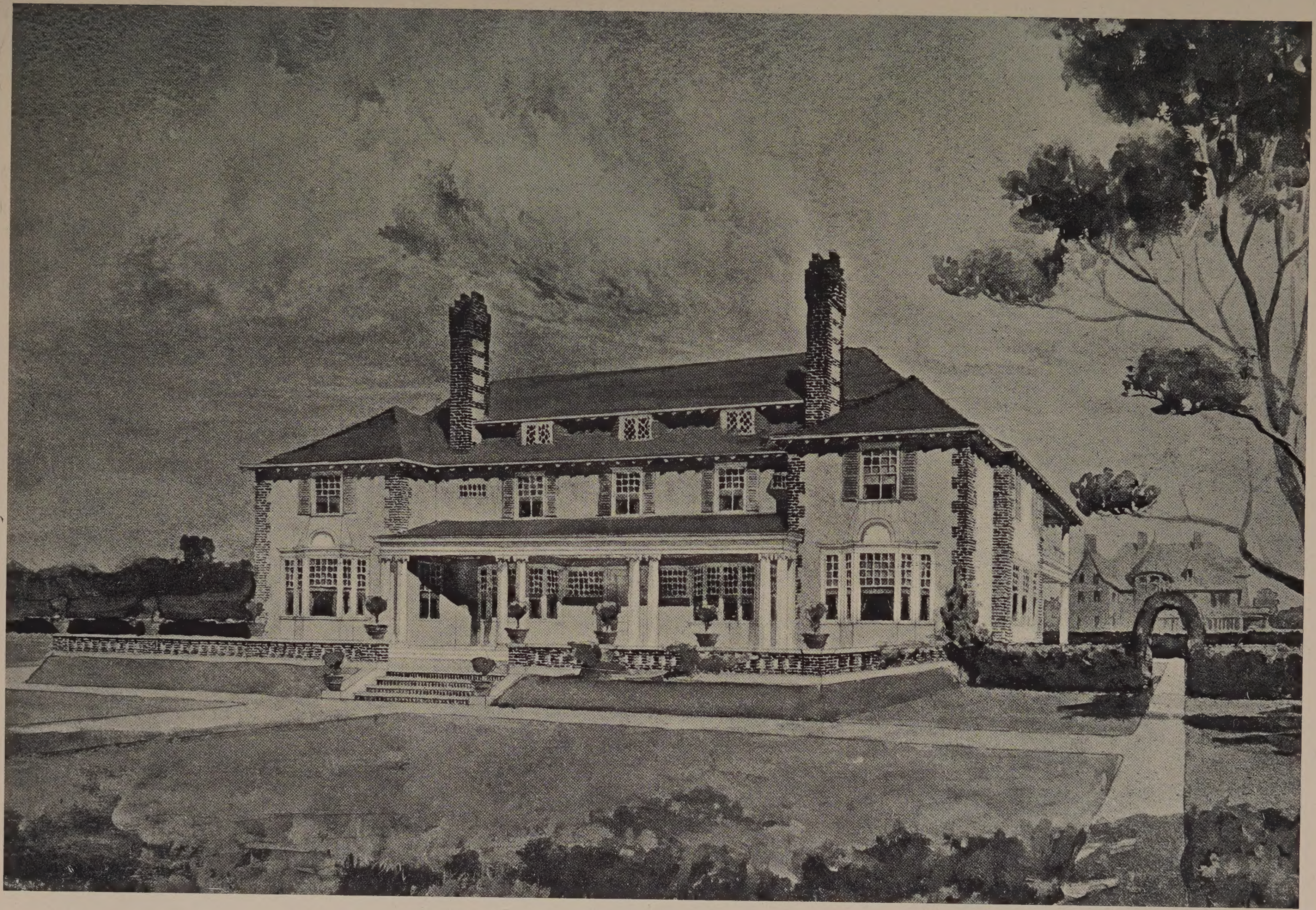
Architects of To-day—VIII.

MR. JOHN M. CARRERE.

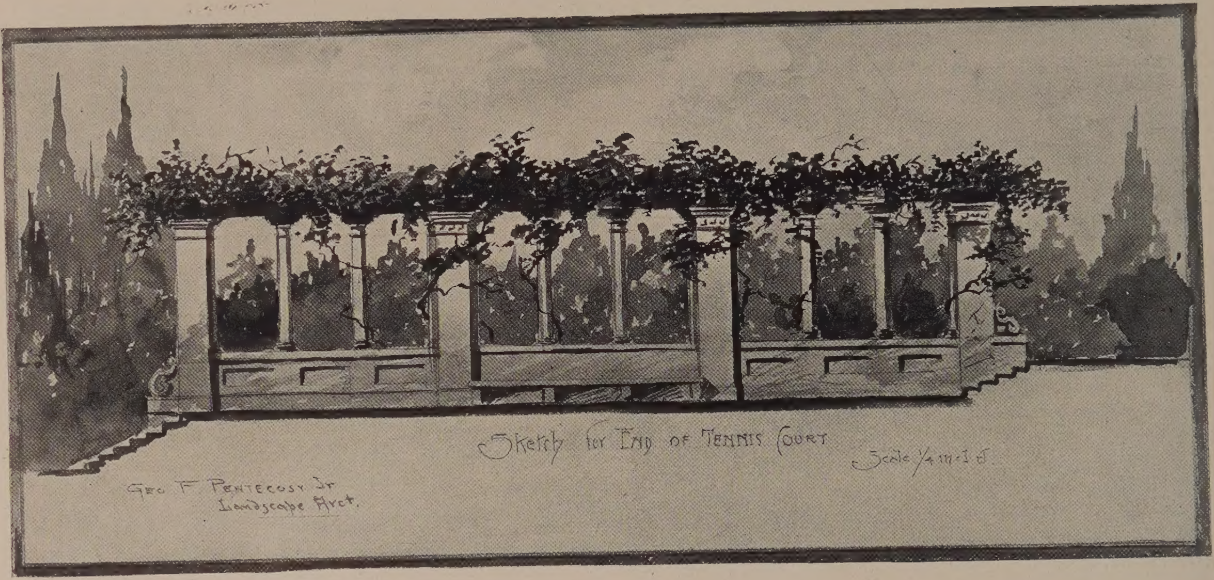
THE EMPLOYMENT OF ARCHITECTS.

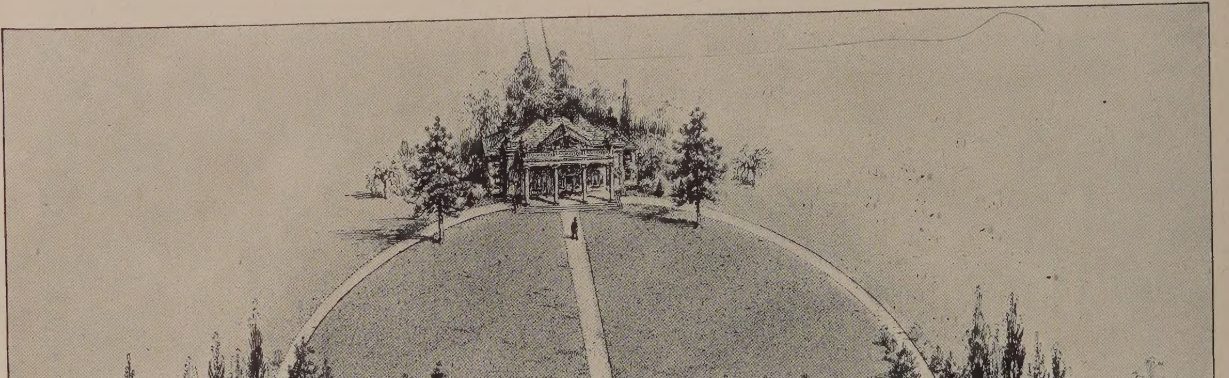
H. S. WHITE.

WHAT proportion of our suburban houses are professionally designed and built, it would be difficult to say. They have disfigured many of our most beautiful suburbs. The architect may indeed point to our ordinary suburban houses and villas as a striking object-lesson of his non-employment. And yet the fact is very unsatisfactory on other grounds. These buildings are discreditable to our national art; but what is the reason of the non-employment of the architect? There are, perhaps, these two chief reasons: first, that the design of an ordinary dwelling-house is an easy matter, and that scores of good models can be found; second, that an architect adds to the expense. We may just examine these arguments briefly. If we regard the design of a house as so many rooms with entrances and windows inclosed by outer walls, then truly anybody may become his own architect. It is an easy matter to look over published plans of houses and adopt that which seems most suited to the ideas of the owner. But if it is, as it ought to be, an adaptation to the environment—an evolution of the habits and social tastes of the occupant, in which every room has been arranged with reference to aspect, to use, to physical comfort and taste, and the exterior has been shaped to the requirements—the design can be made only by an architect. Perhaps the most mechanical type is the house in a row, where there is more or less repetition, due to the same aspect for chief rooms and the same external dimensions. It is, of course, possible that the design may be a copy of a similar house, and that the architect's assistance may be dispensed with. Hundreds of such houses are built every month without any professional aid. But even in these circumstances the fact does not justify the means. Because a practice is common it does not follow that it is either wise or expedient. Cheapness or avariciousness is the cause of badly-planned and imperfect houses, and this cause leads us to the second point; and here we think experience has proved that there is no saving in a cheaply-built house. To say nothing of plan or design, the cost of repair is endless, and often exceeds the small fee of the architect. Bad foundations, cracked walls and plaster, unsanitary drainage that has to be overhauled on the first appearance of an infectious scare, leaky roofs and gutters, and bad fittings and workmanship everywhere, compel the hapless owner to spend money year after year if he wishes to keep good tenants. As in the case of law or medicine, the man who “becomes his own architect” well deserves the stigma of the old adage. There is another aspect of the case. The builder who contracts to carry out his own plans cannot be expected to do so at the same rate as he would submit a tender upon an architect's set of plans. He adds a percentage for his extra trouble, and does not scruple to use his own discretion in the selection of material and labor, which he has a right to do. Thus the supervision of an independent party to the contract is lost sight of. But the public believes this course saves the fees, and are thus put off their guard. In the other professions, except that of architecture, scientific skill is the stronghold of the professional man. The medical practitioner, as a member of a recognized scientific profession, claims his remuneration for his expertness in a vocation which the public knows nothing about; and the lawyer can claim also an exactness and skill in his profession; both are guided by definite knowledge and experience—guesswork is a negligible quantity; but the architect is largely guided by judgment and taste in questions which many outside the profession believe they are capable of exercising, and hence it is a fact that this profession is not recognized in the same way as the others; nor, as in the case of the engineer, whose skill and services are based on science more or less directly. The conclusion we have to draw is that where there is no science or skill, there is no inducement to engage a professional man. We go to him because he knows something we do not know; it is because of his expertness in a particular branch that the public seek his advice. The professor of an art like architecture is

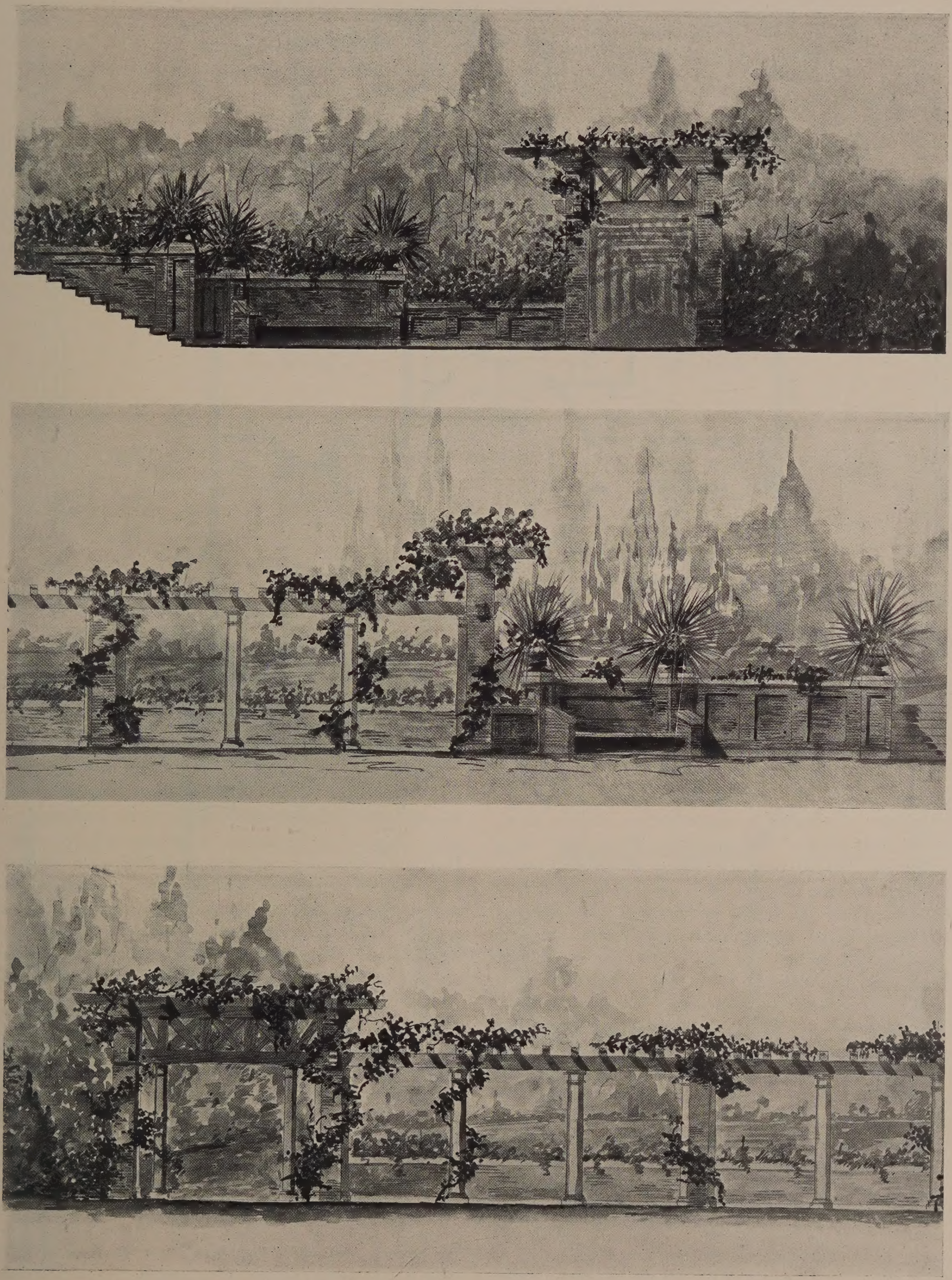


COUNTRY HOUSE, H. M. DAY, BELLE HAVEN, CT. N. C. Mellen, Architect. (For plans see page 181.)

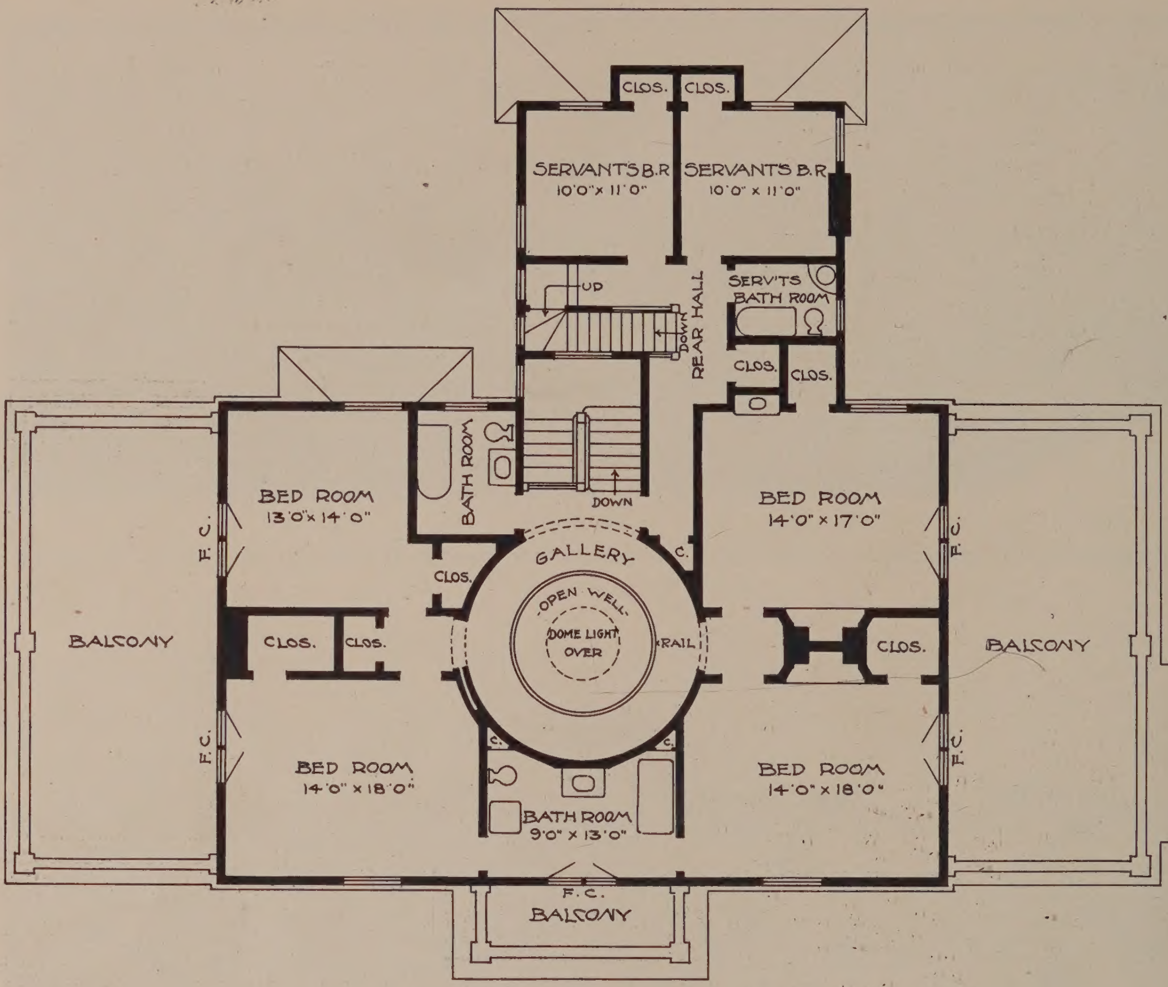




BIRD'S-EYE VIEW OF TENNIS COURT AND GARDEN, T. H. DIXON, CHESTNUT HILL, PA. Geo. F. Pentecost, Jr., Landscape Architect.



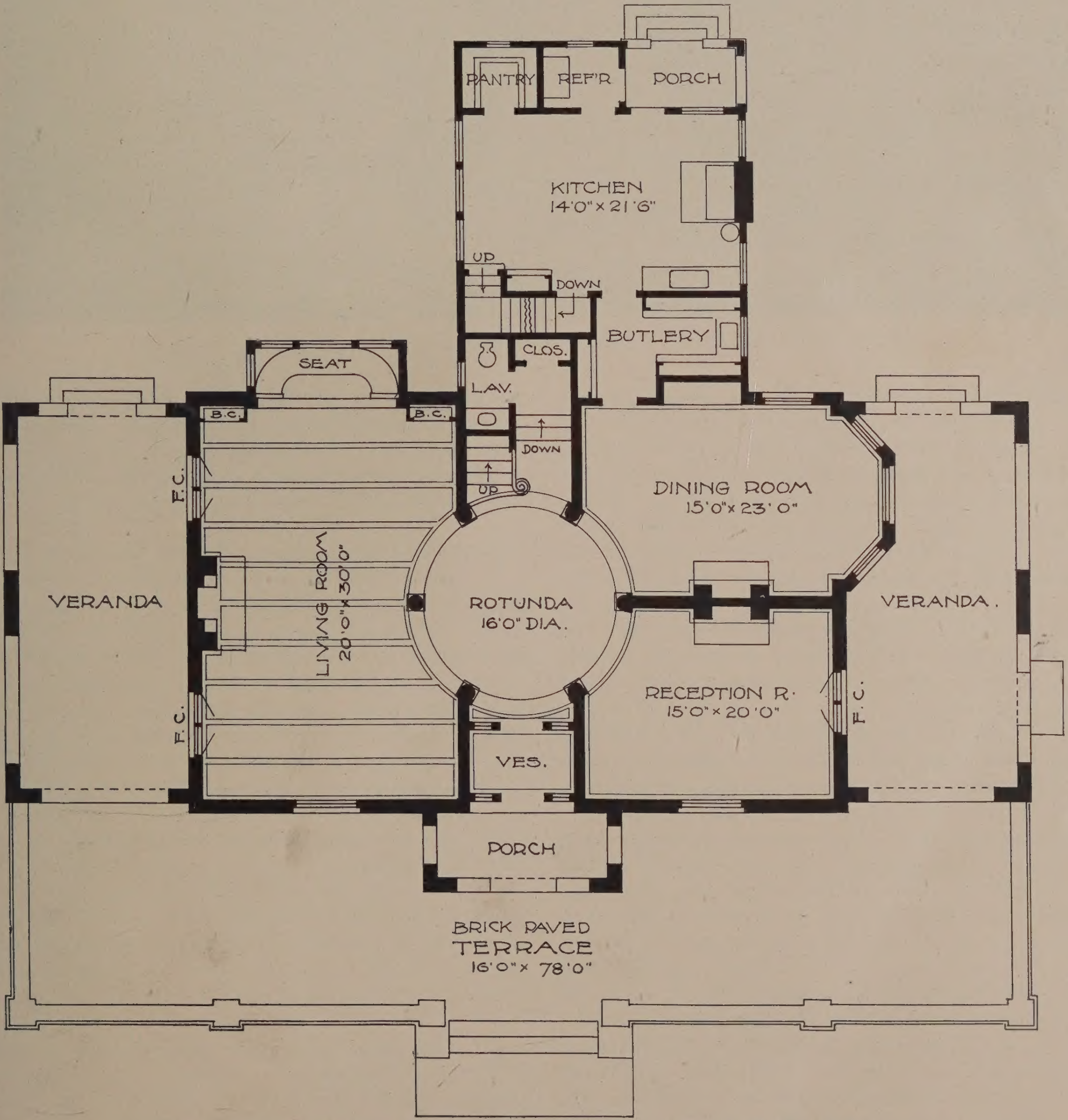
SKETCHES OF PERGOLA, GARDEN, T. H. DIXON, CHESTNUT HILL, PA. Geo. F. Pentecost, Jr., Landscape Architect.



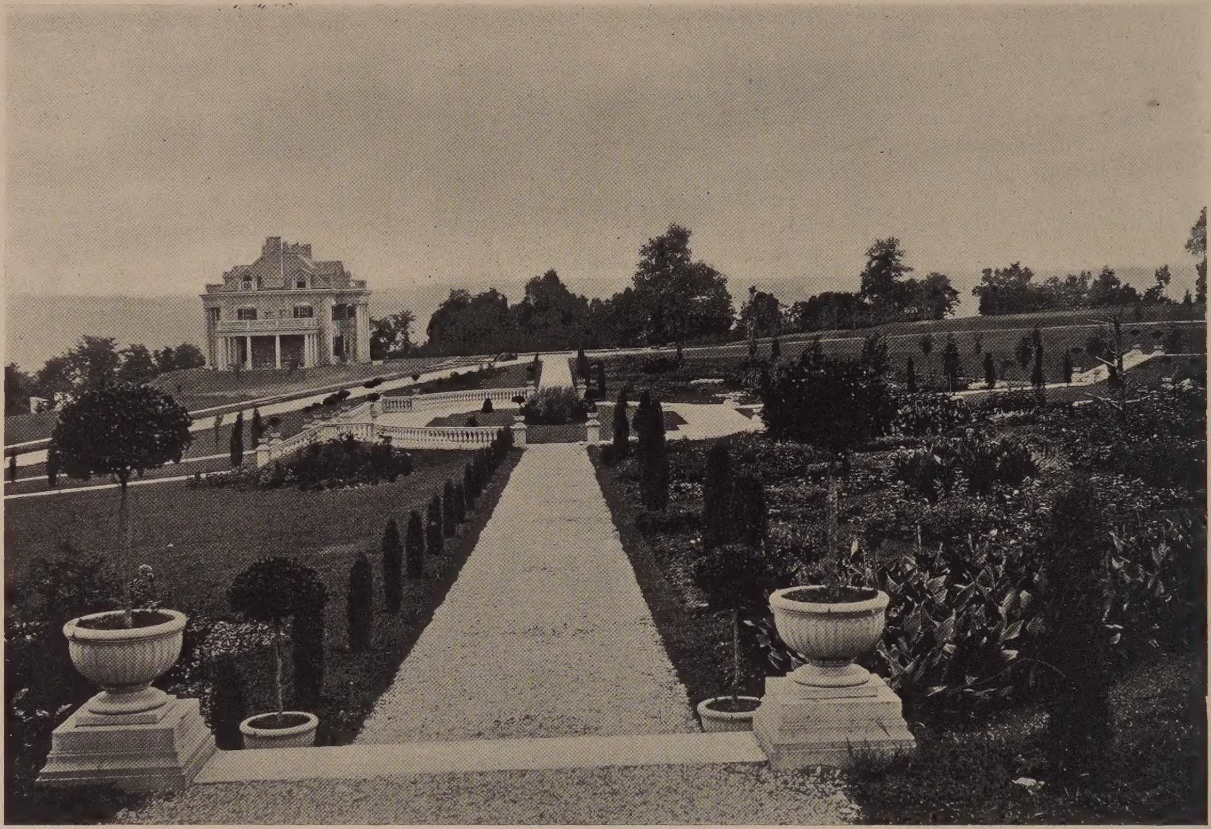
SECOND STORY PLAN, COTTAGE, D. L. YOUNGS, SUMMIT, N. J. Wm. K. Benedict, Architect.

unfortunately in the position of one who can make no exclusive claim like that of a doctor or scientist on any subject; his art is not "hedged round;" everybody thinks he can build, and a man who can draw or copy any building is thought capable. "It is only a matter of taste," they say, which everybody is supposed to possess. So long as the profession is not registered or certificated, like the medical man and the solicitor, there will be ground for this notion. So long as the mere draughtsman, or house agent, or builder, can supply plans for houses, the architect will be unrecognized and undervalued. The merest pretender can now call himself an architect. Such license has damaged the profession in the eyes of the public who are unqualified to discern the good from the bad, or who do not know what architecture really is in the true sense. The profession themselves have in many points given themselves away, either by undervaluing their services or by excessive charges, by increasing the expenditure of buildings, and by adopting unprofessional methods.

On the other hand, there are circumstances that favor architectural employment. The effect of restrictions on building have no doubt operated in this direction. Building regulations and by-laws, sanitary legislation, and the like have had the effect of bringing people to architects. It is only the professional expert who has any knowledge of the requirements of these regulations, and he is consequently better able to advise his clients and prepare plans than a builder or any uninformed person. Stringent building regulations have compelled building owners to seek professional assistance, and have therefore conferred an indirect benefit on architects. If there was a law in operation that all designs for buildings in towns were to be submitted to a committee of experts in architectural design, or that the facades in certain streets were to be submitted for approval, the employment of the architect would be even more assured. When the public are compelled to obey laws of sanitation and building their distrust of architects will be lessened; when they see the profession insisting upon the qualifications of its own members by various means they will have less confidence in their own resources; and this is a truth that is forcibly brought home to us in every walk of life. The ignorant are always the more presumptive; they imagine they can understand everything till they are proved to be in the wrong; they resent any interference of authority; they repudiate any professional opinion if it clashes with their own; and they will not see that if there is any "deposit of truth" to be found, it must be in the hands of those who practice the particular profession. But there are still people who think architecture is only an art of building according to one's own fancy, that there is nothing more in it than there is in costume-designing or decoration, that it is devoid of any rule or law. The architect must endeavor to appeal to this class of minds, to prove by irrefragable evidence that there are only two ways of building, a right and wrong way, and that the intermediate steps are very often dearly bought. There are some things that have seriously hindered any such attempt. The public look with amusement and ill-disguised disdain on the conflicts of opinion and taste between professional men—their opposite views, their failures, their ignorance of common sense; but they have not the critical perception to find out their agreements, and that beneath all the seeming rivalries and discord there is still a substratum of solid agreement on matters of the first importance. It is the external signs of unity that are most prized by the unthinking, as in the suppression of all internal strife, the close guardianship of professional interests, letting nothing leak out that may do damage to the fraternity, legal protection, and recognition. This semblance of unity we find in the close professions of law and medicine; but in architecture, painting, sculpture, music, and the like, where the appeal is to the emotions as well as the intellect, we find disagreement. The architect is, above all others, liable to express his views or feelings in a mode, through the media of building, in a more decidedly palpable manner. If his art conflicts with any sanitary law, he is at once censured in no mild terms; if his plan yields to some artistic desire for effect, the public instantly give expression to their feelings, and even a draughty room or defective drain is placed to his charge—things which his brother artists do not share. But there are some matters yet which the architect must master if he desires to insure a public confidence in his profession: he must be more particular about essential points in design, so as not to provoke reprisals; he must study his client's requirements and pocket, and it is absolutely necessary, if architects are to retain their position as advisers, that they should possess sufficient knowledge and good taste to justify their existence. Even the public are beginning to be better acquainted with architecture than they once were, and demand a higher standard of competence.



FIRST STORY PLAN, COTTAGE, D. L. YOUNGS, SUMMIT, N. J. Wm. K. Benedict, Architect.

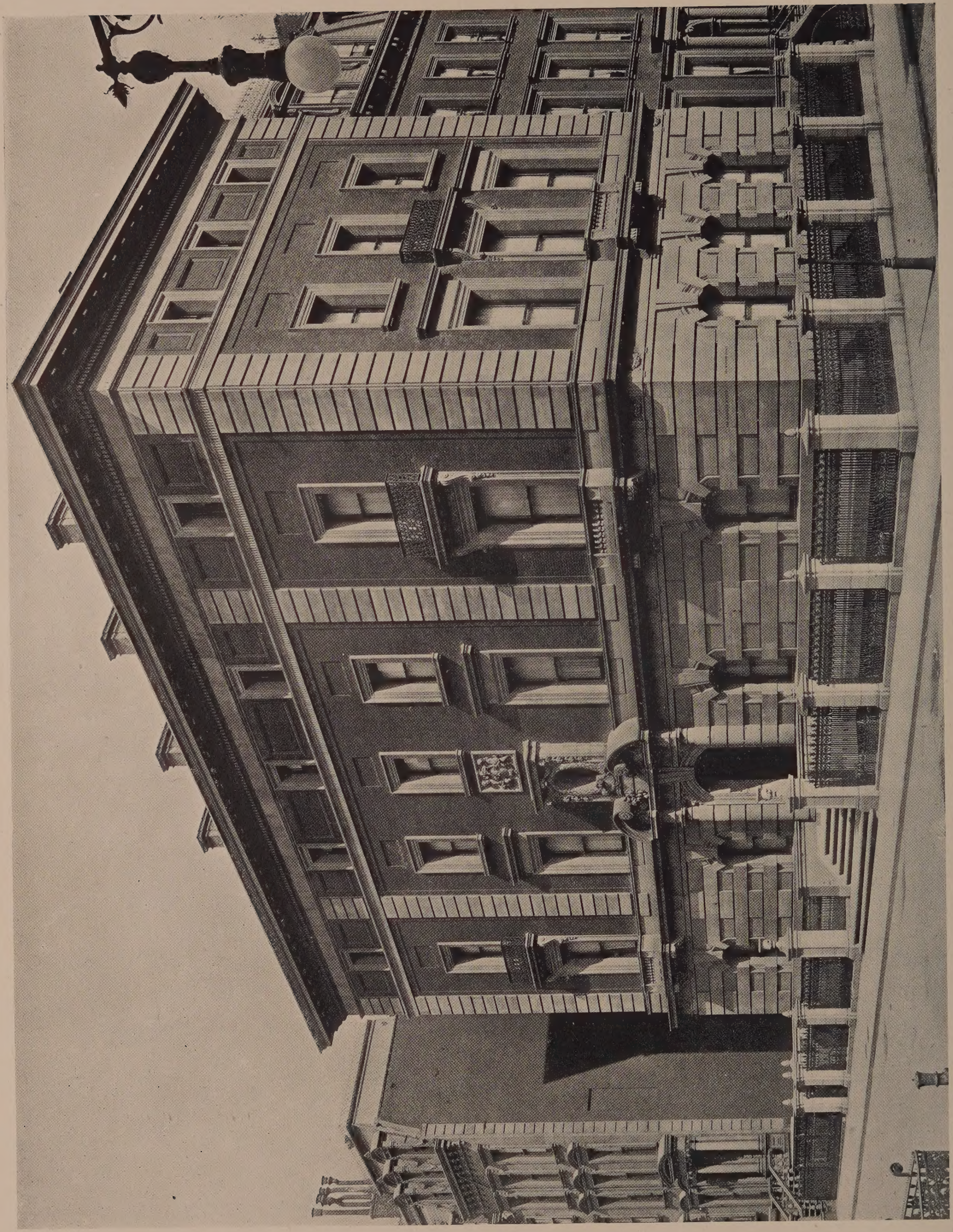


GROUNDS, JACOB TOME INSTITUTE, PORT DEPOSIT, MD. C. W. Leavitt, Jr., Landscape Architect.

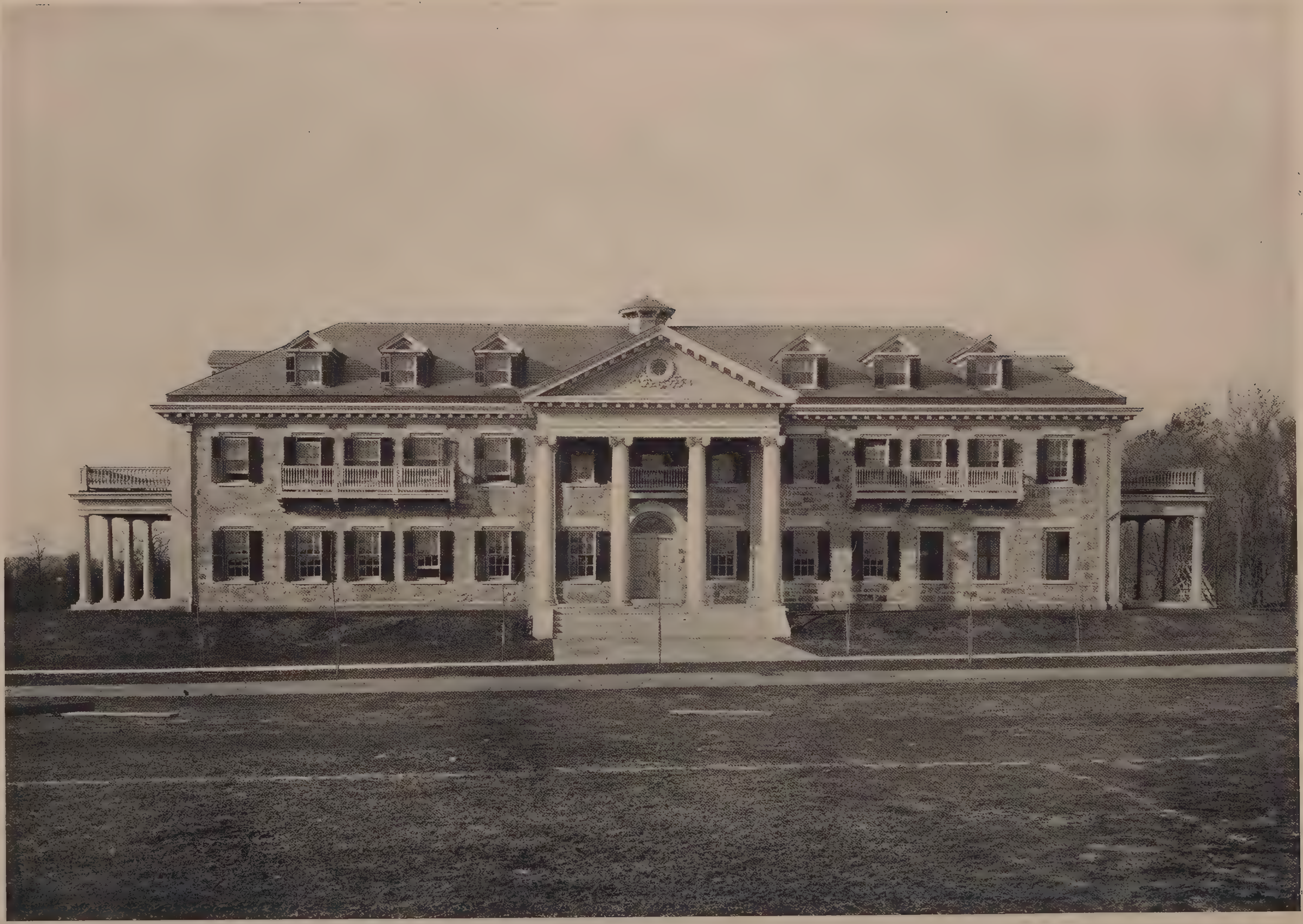
TECHNICAL execution and skill have not generally been identified with art of a high order. Wherever we see a finely executed piece of workmanship there is, generally speaking, a deficiency in some intellectual qualities, or a want of proportion between the labor and effort and the actual attainment. We see, perhaps, a great display of technical skill with very little result or return. In building very ingenious construction is sometime thrown away completely by overlooking the aim that ought to have been kept in view. It is so much labor spent without an adequate return. We often see an immense amount of moulded and carved work in the front of buildings that is so much skill absolutely wasted without any effect ; an interior with an elaborate scheme of ornament quite misplaced, as if the joiner, plasterer, and modeller tried to vie with each other in exhibiting their executive skill, and all the devices of their crafts. Those who frequent our technological and building exhibitions have clear evidence of this fact, for have we not often seen the most skillful arrangements and the most perfect execution accompanied by a neglect of artistic discernment and instinct? Most complicated designs are exhibited for moulded and cast brick, for terracotta faience and tile work. The plastic decorations for ceilings and walls are frequently so elaborate in pattern that the effect of the relief is lost, the idea being to crowd as much ornament in a given space as possible. And then look at the exuberant style adopted for ornamental woodwork, and for iron and metal goods, notably firegrates and chimneypieces, door furniture, &c., as if the intention of the manufacturer was to exhibit as much labor as he could at the price. It is needless to say that all this is a vital error, a conception of work that is mischievous. The use of machinery has largely fostered the idea of elaborate workmanship ; in casting and moulding it is just as easy and cheap to run through the machines elaborate as simple designs. Uninspired and unintelligent labor is so much wasted energy. It is this plethora of unintelligent workmanship that is to be regretted. Real thought-inspired workmanship is another thing altogether.

THROUGH the generosity of Mr. and Mrs. Nelson Robinson, of New York, a traveling fellowship in architecture has been established in Harvard University, of the value of one thousand dollars, to be awarded annually to graduates of the School of Architecture who have completed their course with distinction, or who have completed with distinction a post-graduate course of not less than one year. Selection is made from among the candidates by competitive examination, and candidates cease to be eligible on the completion of their twenty-sixth year. The winner of the award is required to spend a year in the study of architecture in Europe, under the direction of the authorities of the Department. The Austin Scholarship, maintained with substantially the same object for some years past, out of the income of the bequest of the late Edward Austin, has been modified, so that, instead of supporting a student in foreign travel, it is now to be devoted to the establishment of three ordinary scholarships in the architectural department, each with an income of three hundred dollars, for the assistance of undergraduates in the department.

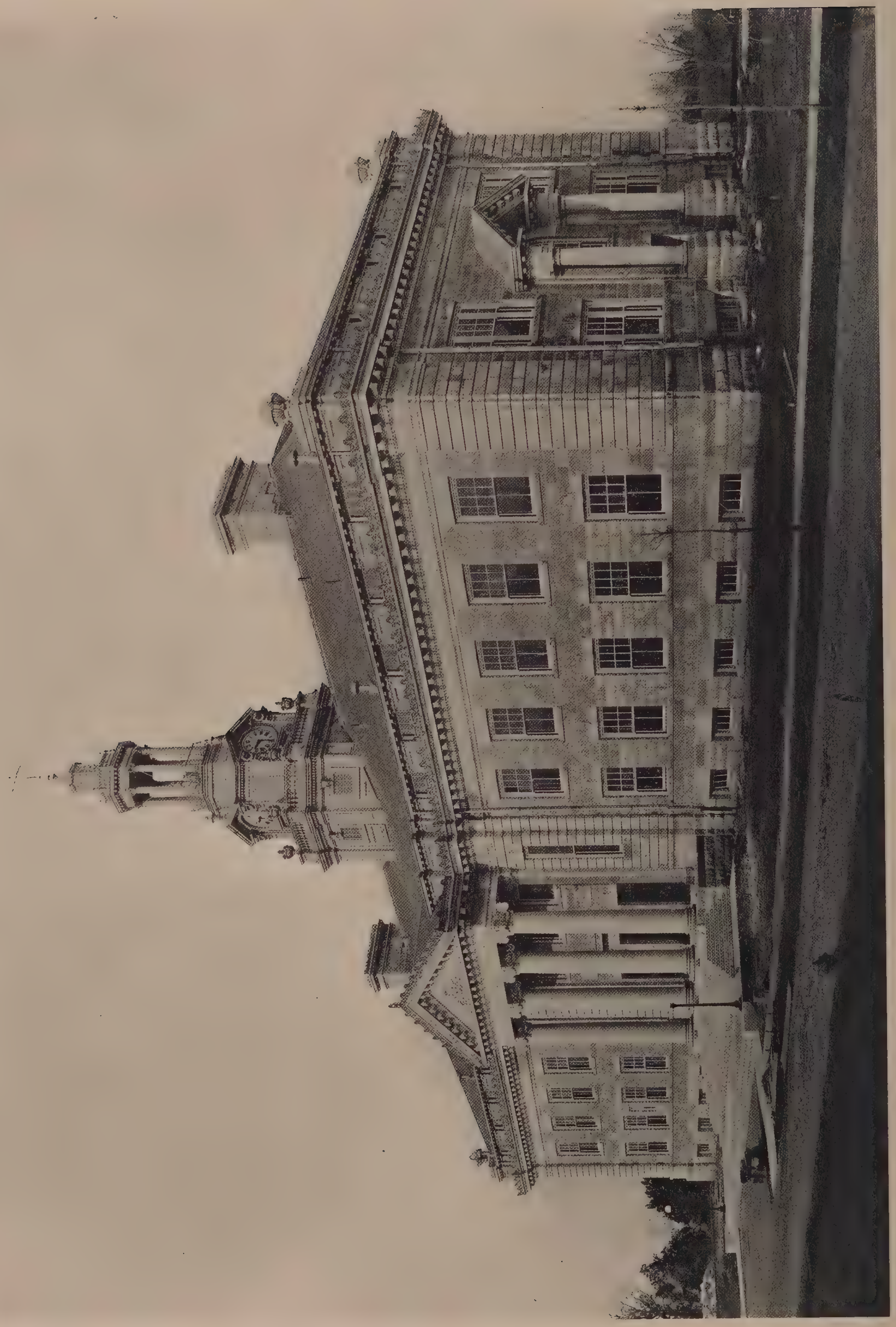
AT THE annual meeting of the Pittsburgh Architectural Club the following officers were elected for the coming year: President, Geo. Schwan ; Vice-President, Benj. M. Nisbet ; Secretary, Dan Crone ; Treasurer, Walter Stulen.



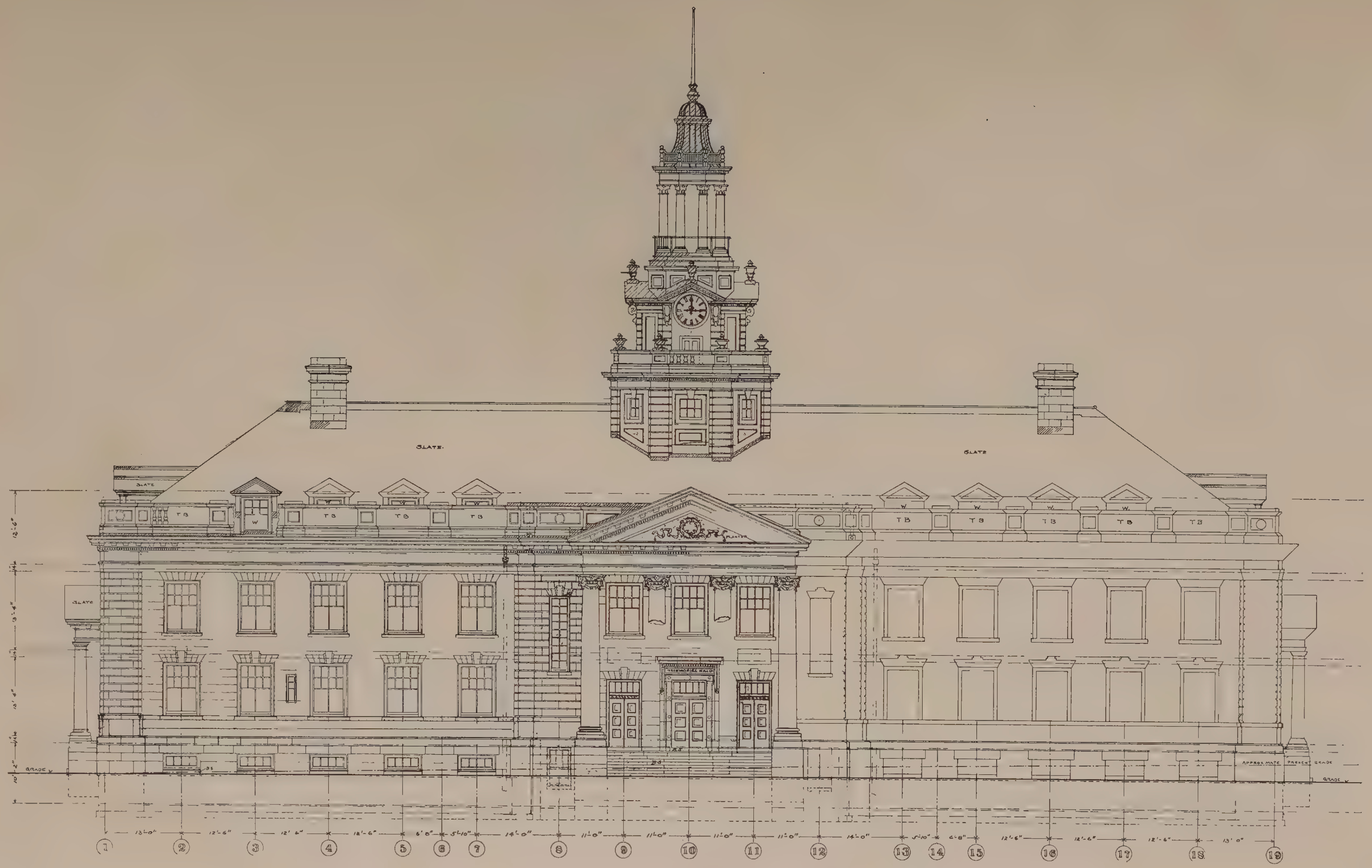
HOUSE, 284 MADISON AVE., COR. 40th STREET, NEW YORK. N. C. Mellen, Architect. (For plans see page 182).



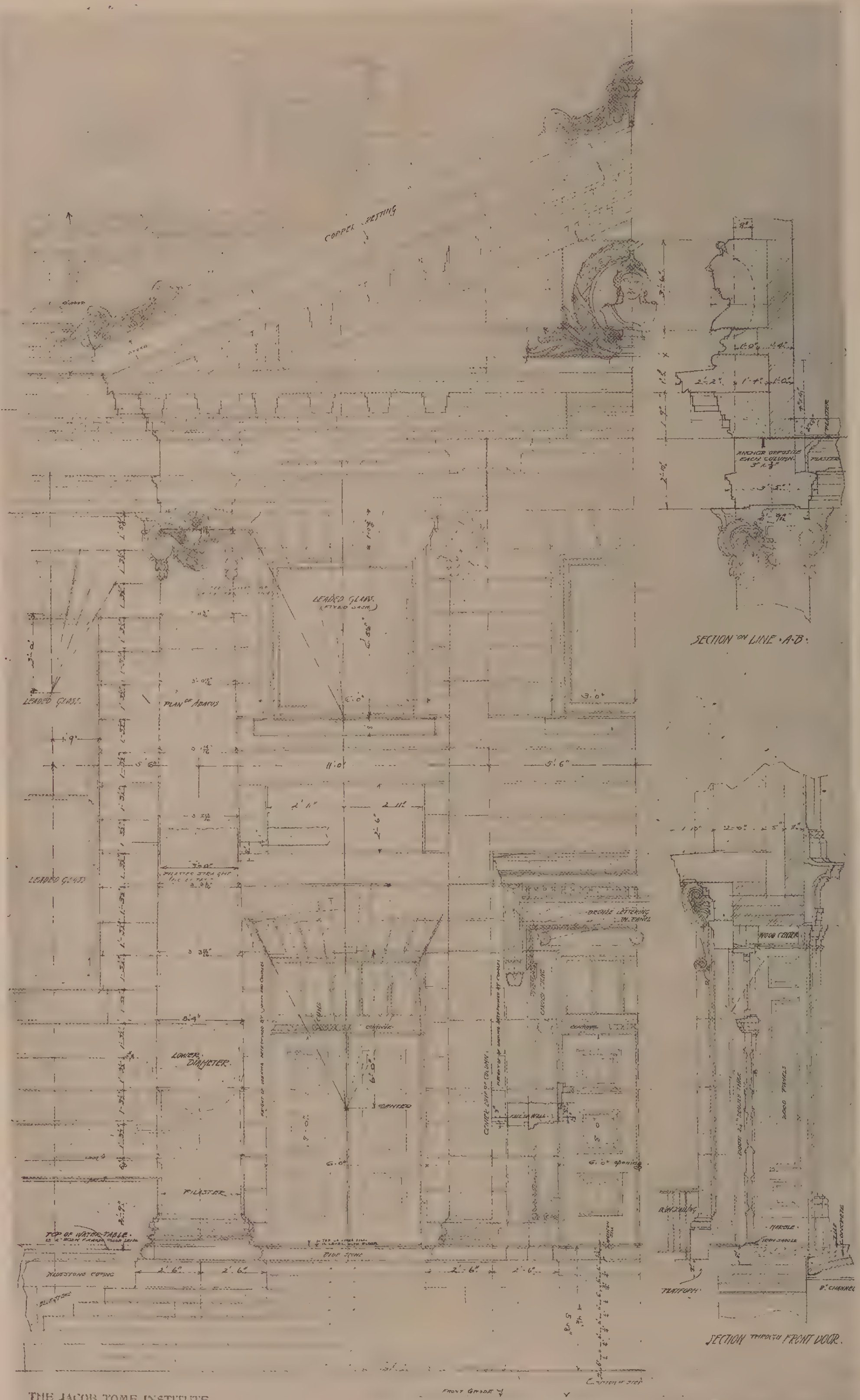
DORMITORY, JACOB TOME INSTITUTE, PORT DEPOSIT, MD. Boring & Tilton, Architects.

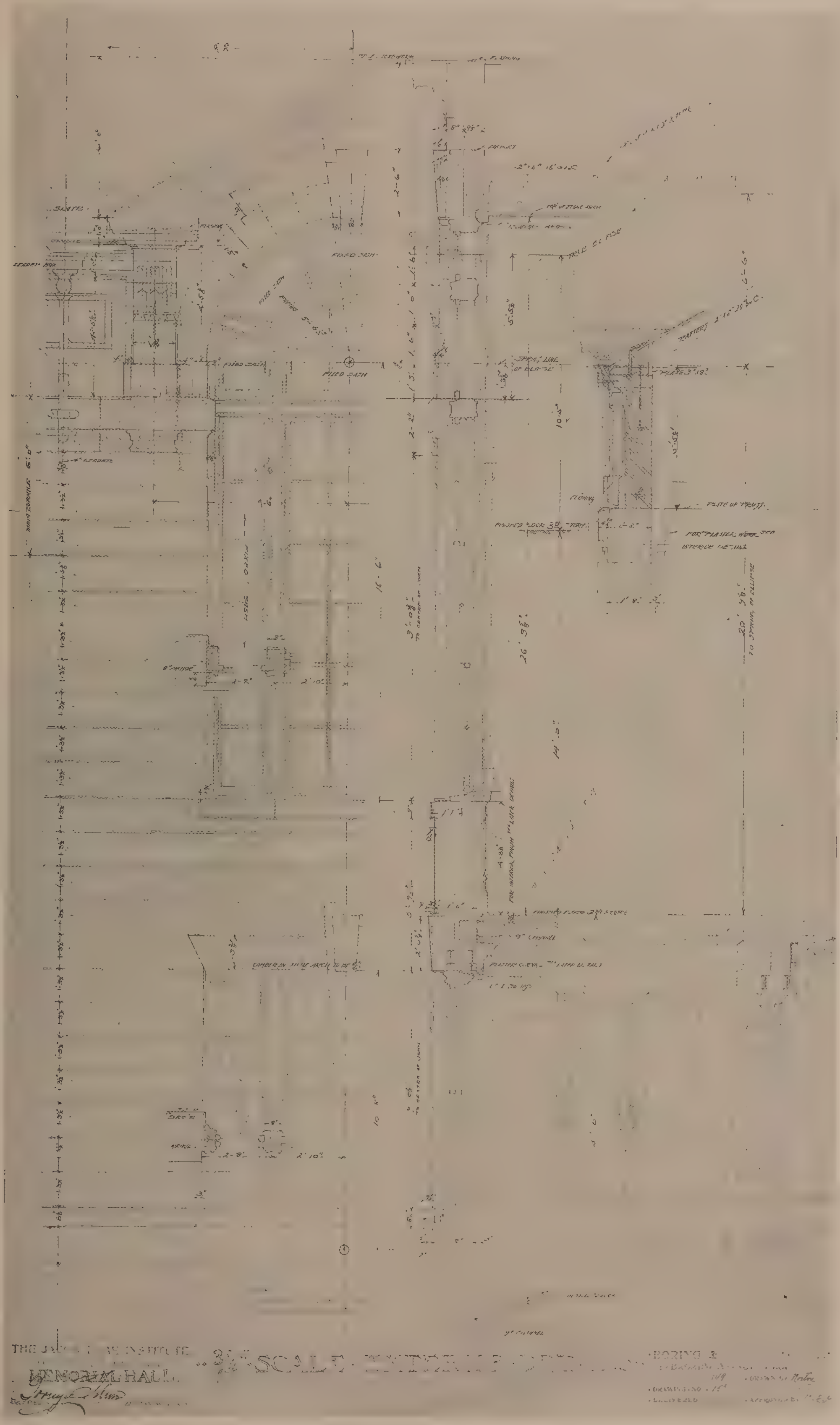


MEMORIAL HALL, JACOB TOME INSTITUTE, PORT DEPOSIT, MD. Boring & Tilton, Architects. (For plans see page 180).



FRONT ELEVATION, MEMORIAL HALL, JACOB TOME INSTITUTE, PORT DEPOSIT, MD. Boring & Tilton, Architects.


COPPER CRESTING
LEADED GLASS (FIXED SASH)
LEADED GLASS
PLAN OF ABACUS
LEADED GLASS
LOWER DIAMETER
PILASTER
TOP OF WATER-TABLE
BRONZE LETTERING
CARVED STONE
CENTER
SECTION ON LINE A-B
ANCHOR OPPOSITE EACH COLUMN
PILASTER
WOOD COLLER
WOOD PANELS
PLATFORM
SECTION THROUGH FRONT DOOR.
FRONT GRADE
THE JACOB TOME INSTITUTE,
PORT DEPOSIT, MARYLAND.
MEMORIAL HALL.
Boring & Tilton
32 BROADWAY, N. Y.
NOTE! IN SETTING STONE WORK, HAVE MIDDLE SECTIONS LEVEL AND DROP OUTER SECTIONS AT AXIS END 12, 1", GIVING CAMBER TO STEPS, PLATFORM, LINTEL AND PEDIMENT.
BORING & TILTON · Architects ·
· 32 · BROADWAY · NEW YORK ·
149
· DRAWING · NO · 122
· DELIVERED · 11/27/1900
· APPROVED BY W. E. K.


SLATES
FIXED SASH
MAIN CORNICE
RAFTERS 2"x12" 20" o.c.
PLATE OF TRUSS
FINISHED FLOOR 3RD STORY
FOR PLASTER WORK SEE INTERIOR DETAIL
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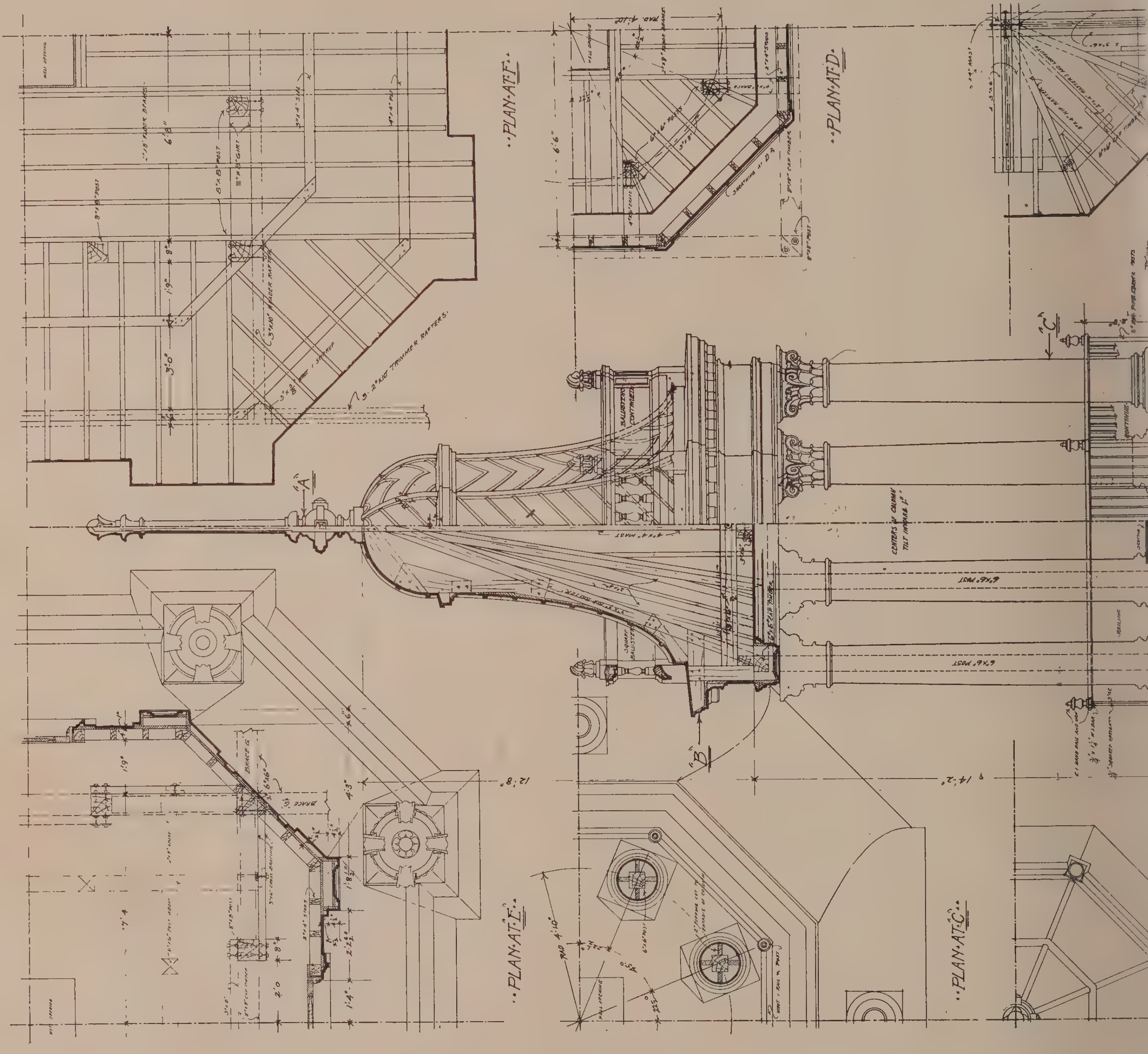
3/4" SCALE
BORING &
DRAWING NO. 15


PLAN·AT·F
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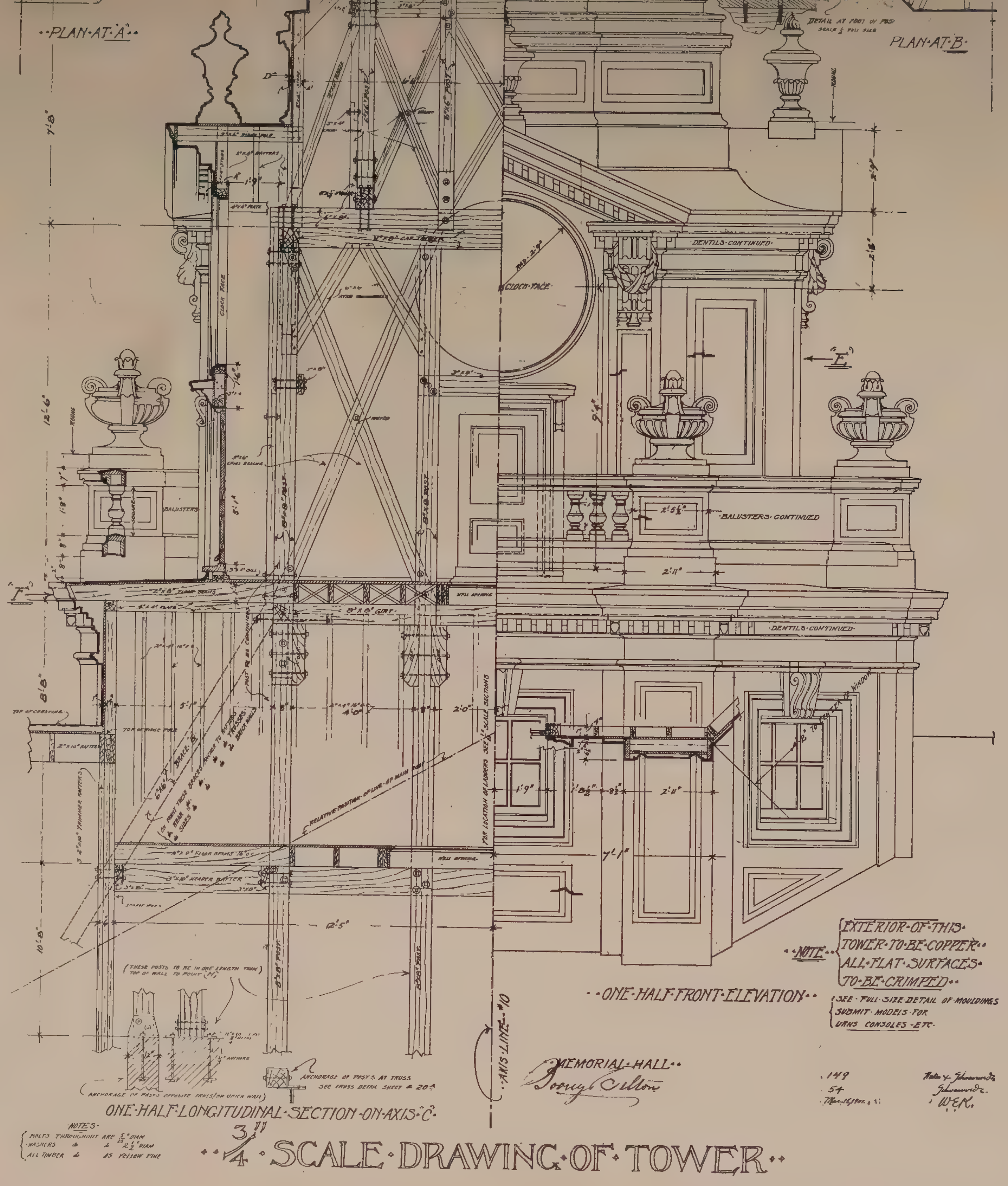
PLAN·AT·E
PLAN·AT·C
"A"
"B"
"C"
3-2"x10" TRIMMER RAFTERS.
BALUSTERS CONTINUED
SQUARE BALUSTERS
CENTERS OF COLUMN TILT INWARD 1"
6"x6" POST
12'8"
14'2"



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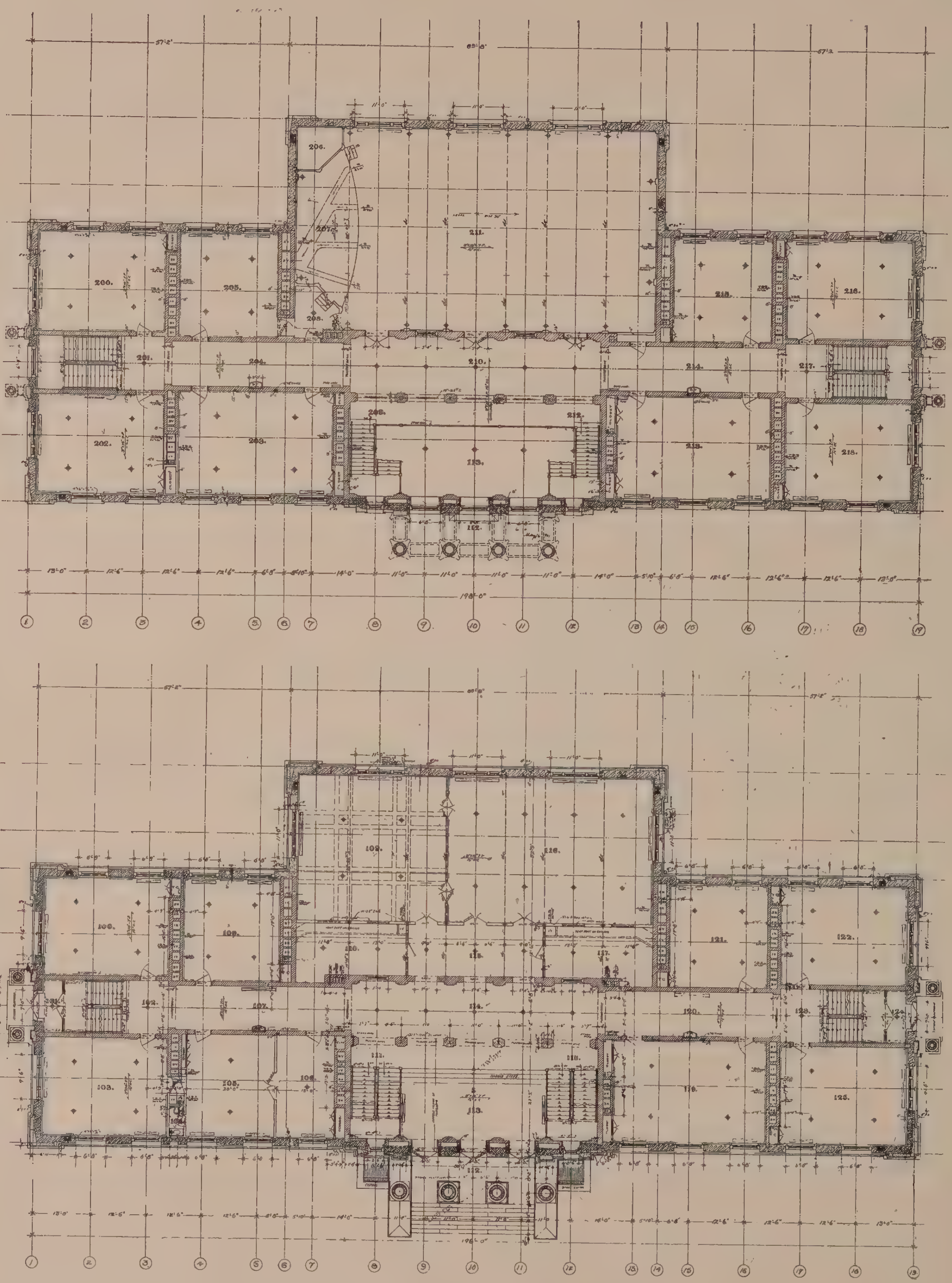
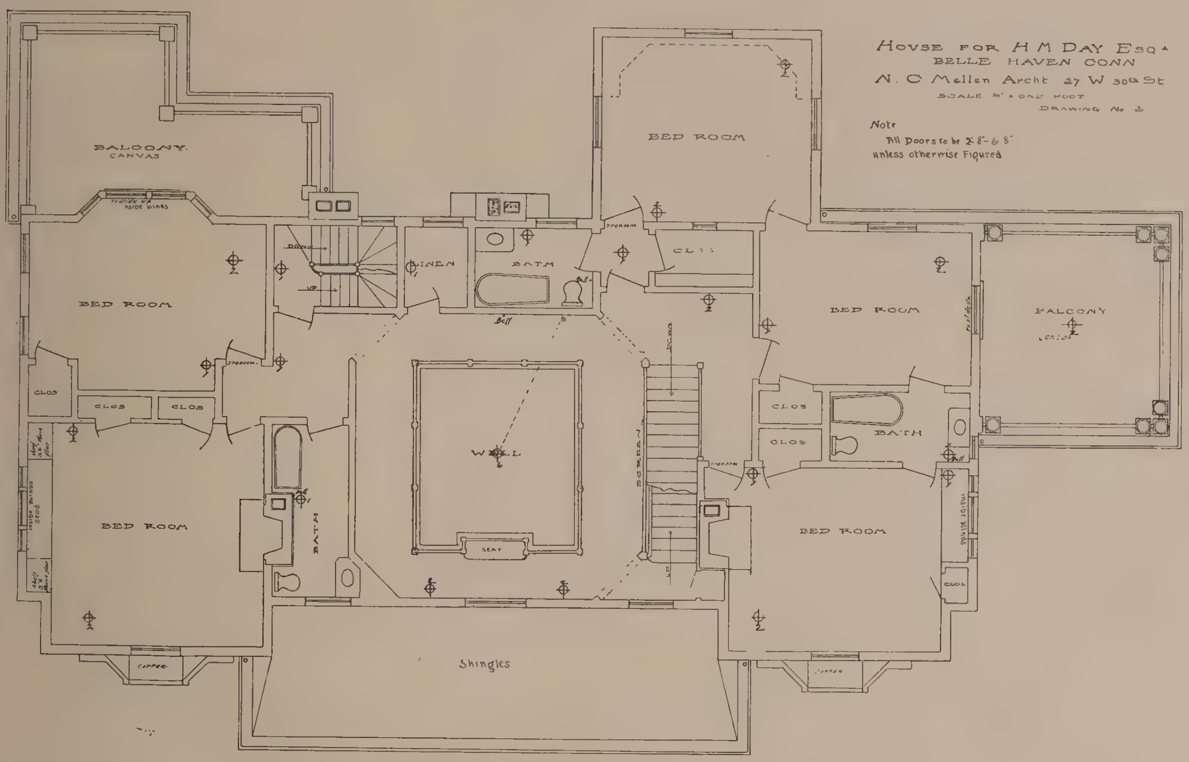
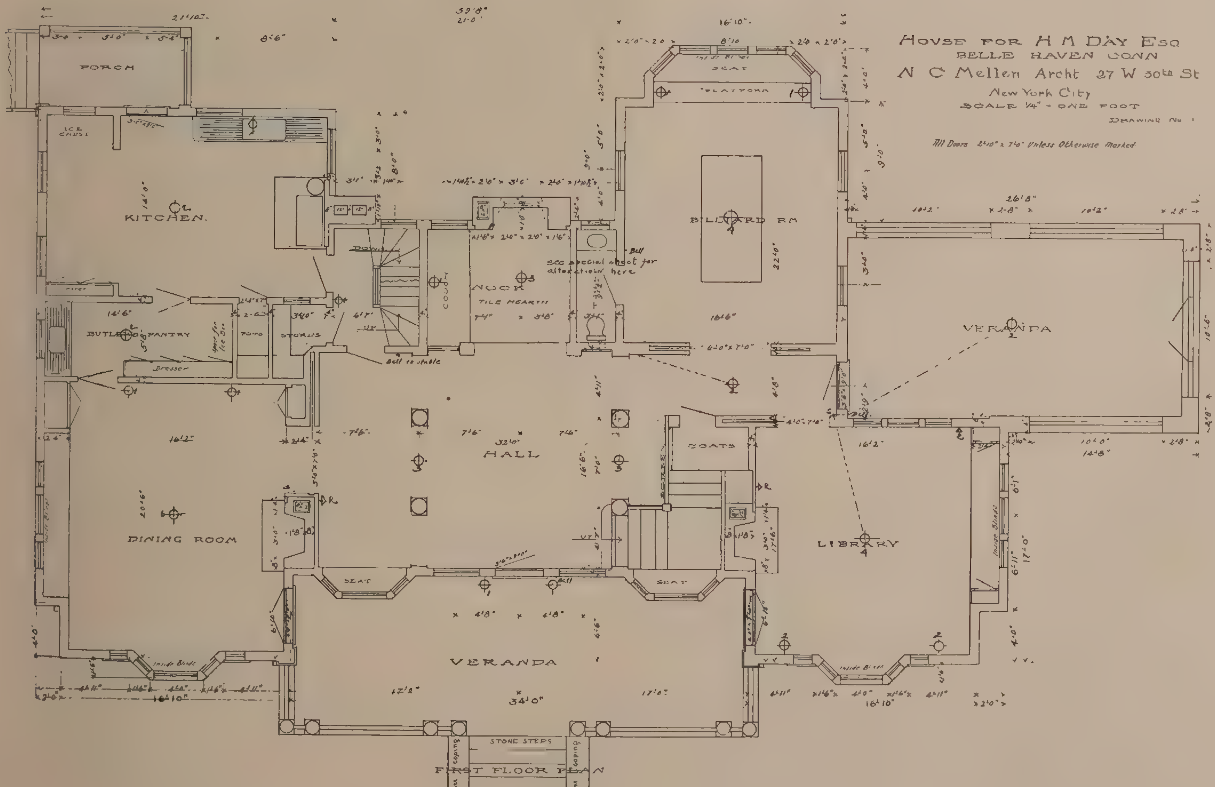


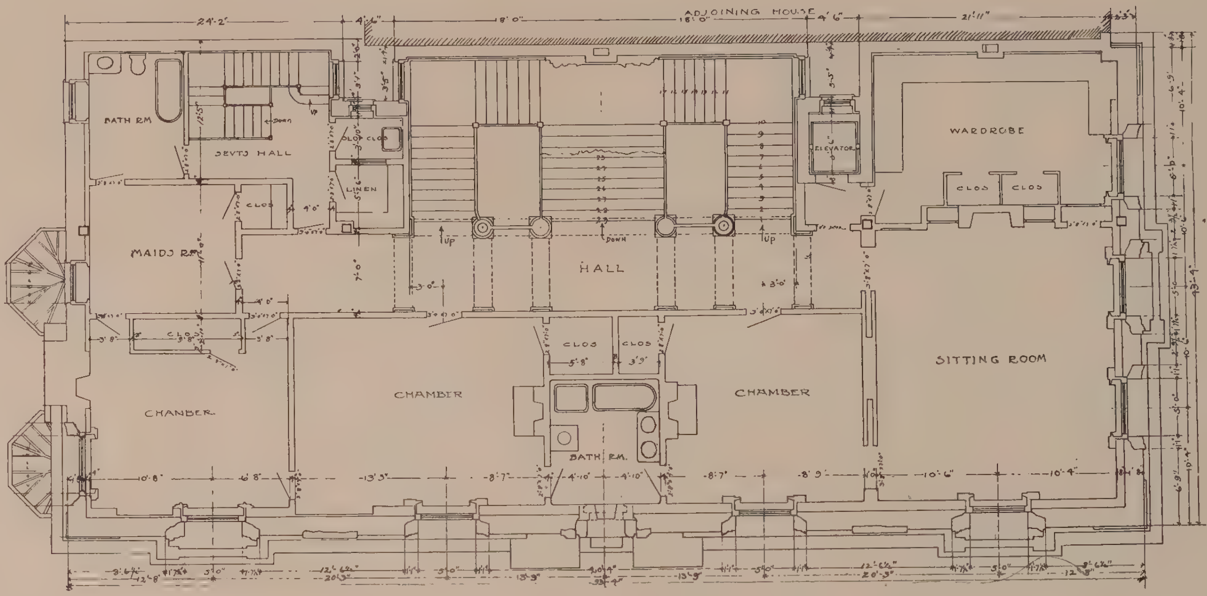
FIRST AND SECOND FLOOR PLAN, MEMORIAL HALL, JACOB TOME INSTITUTE, PORT DEPOSIT, MD. Boring & Tilton, Architects.
No. 116, Library; No. 109, Stack; No. 103, Faculty; No. 105, Directors; No. 106, Clerk; Nos. 110 and 117, Stock; No. 211, Chapel.
All others are class-rooms.



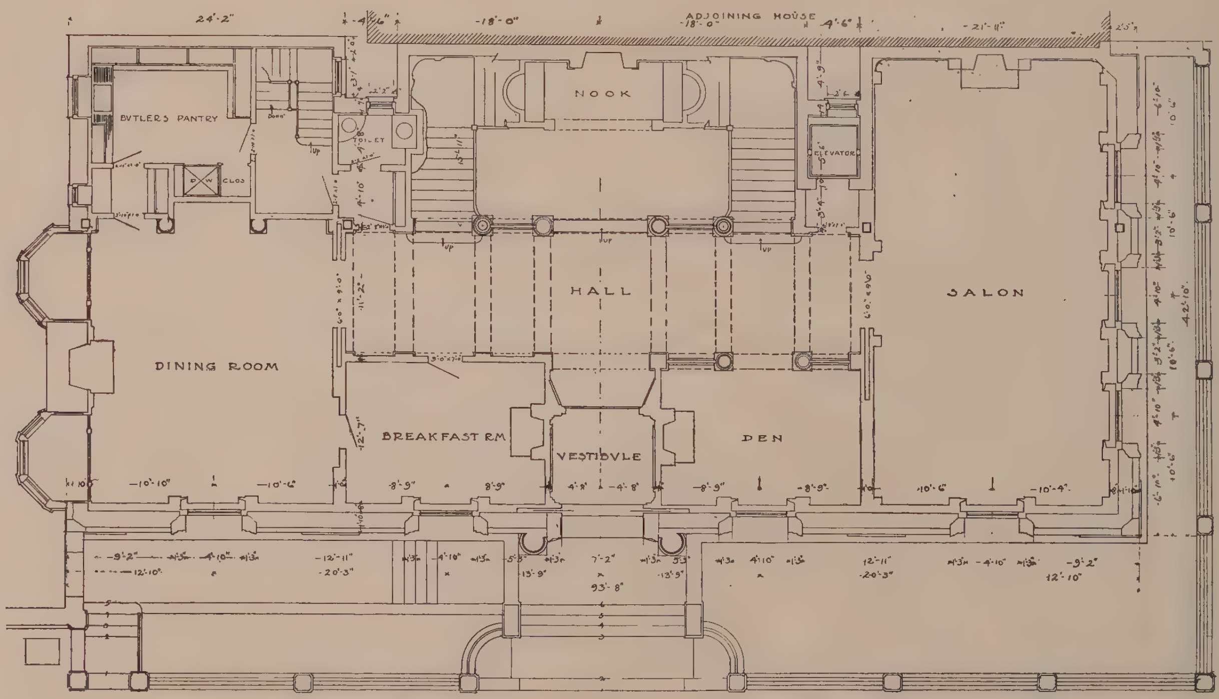
SECOND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN, HOUSE, 284 MADISON AVE., COR. 40TH ST., NEW YORK. N. C. Mellen, Architect.



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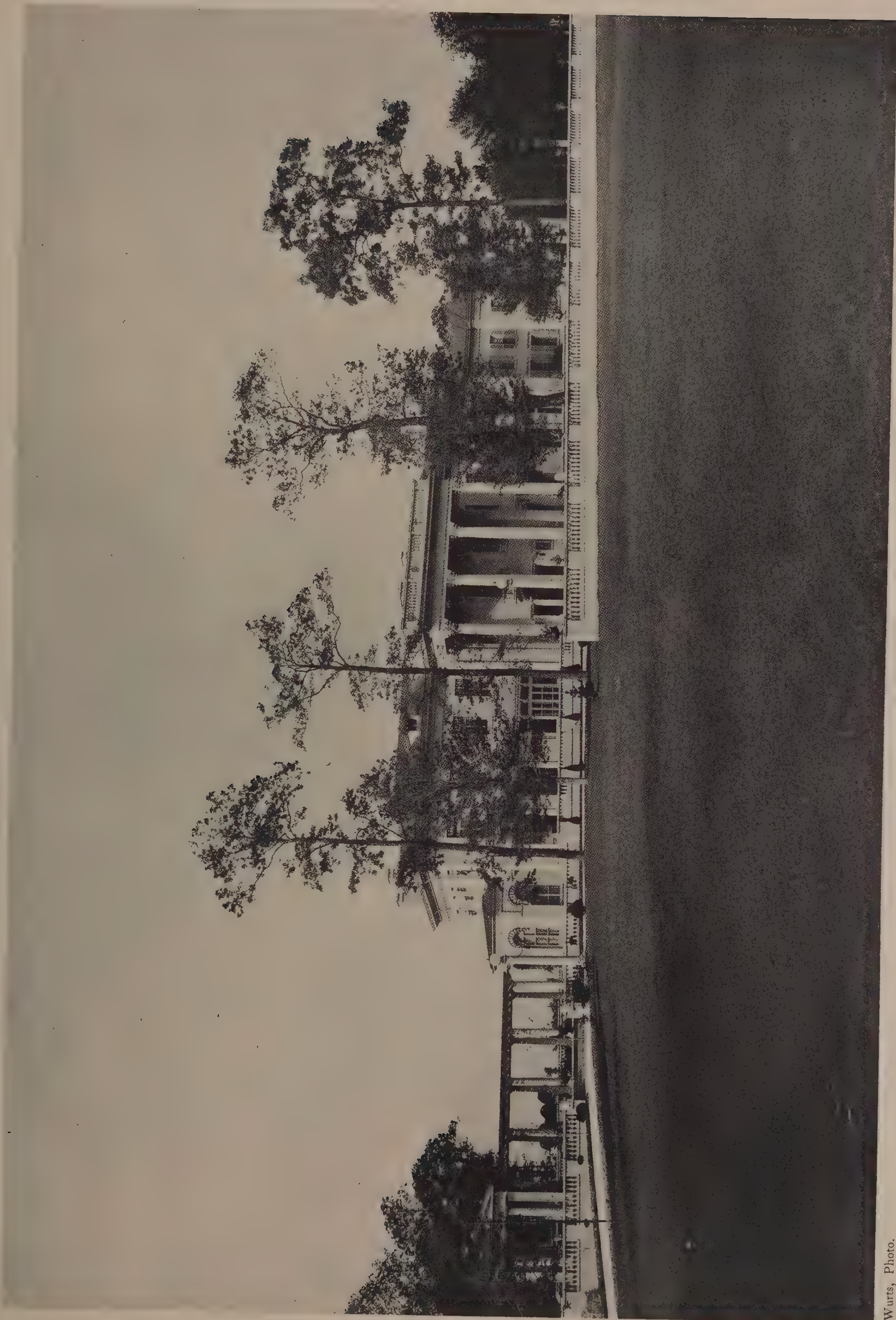
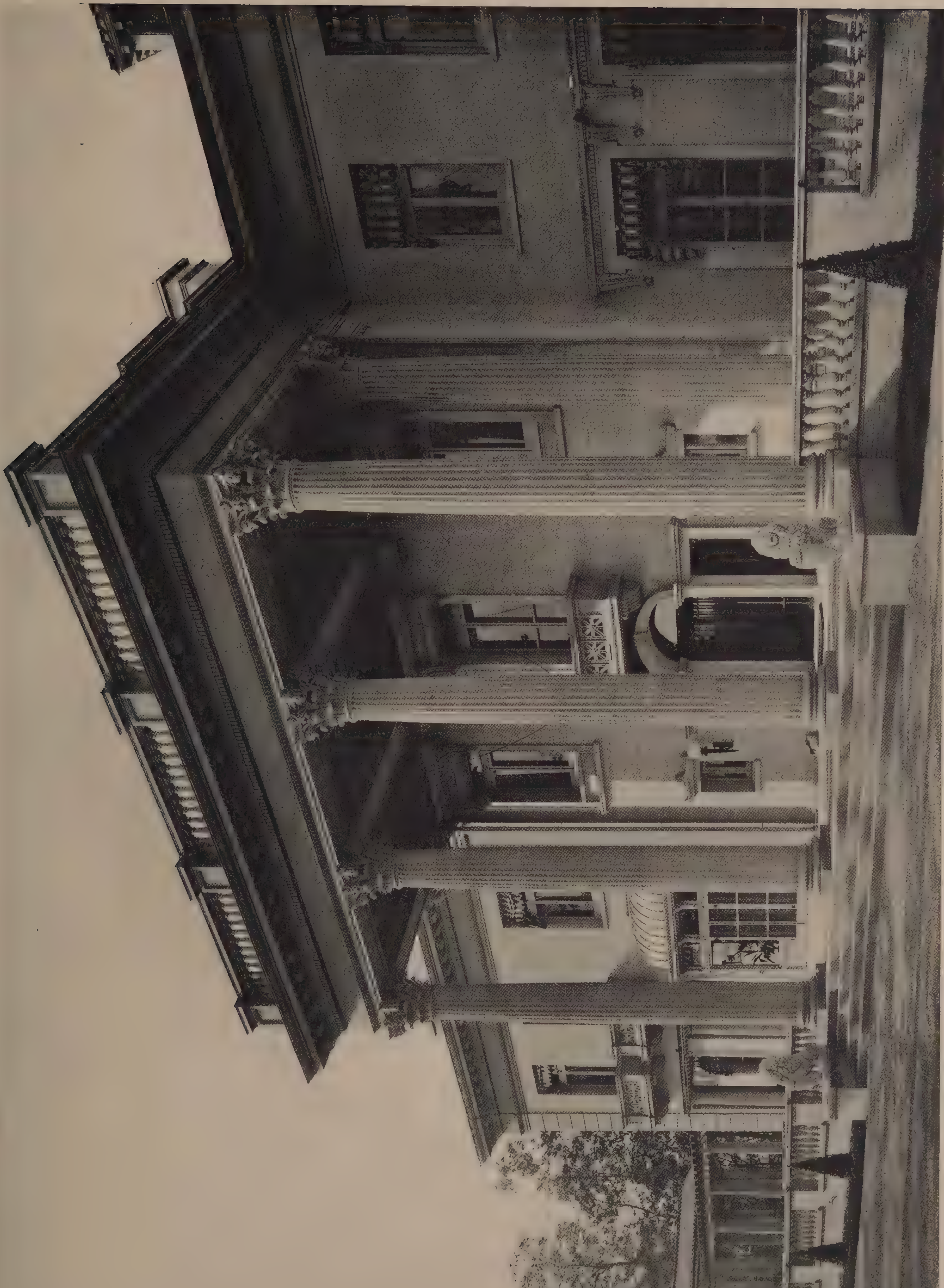


Wurts, Photo.

COUNTRY HOUSE, WM. D. GUTHRIE, LOCUST VALLEY, L. I.

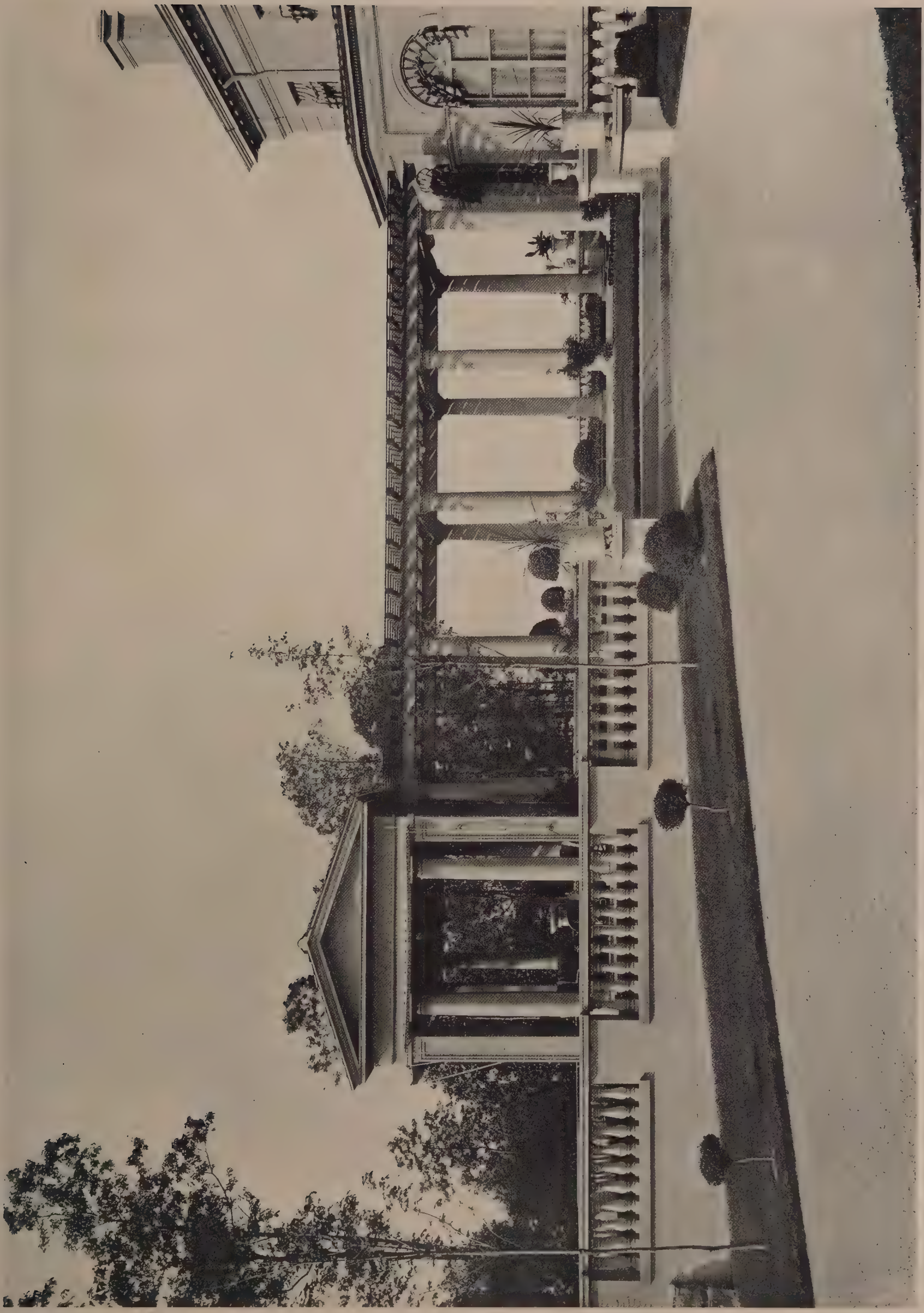
C. P. H. Gilbert, Architect.



Wurts, Photo.

C. P. H. Gilbert, Architect.

MAIN ENTRANCE, COUNTRY HOUSE, WM. D. GUTHRIE, LOCUST VALLEY, L. I.



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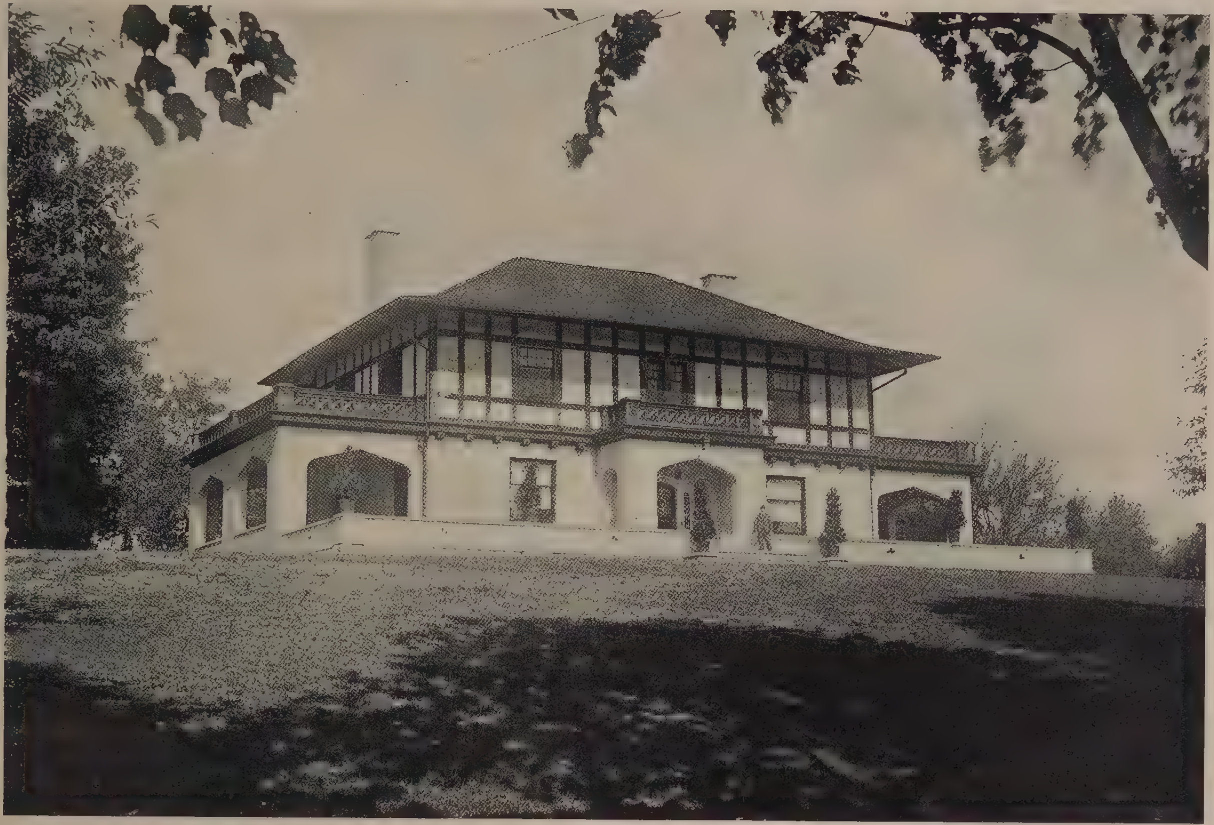

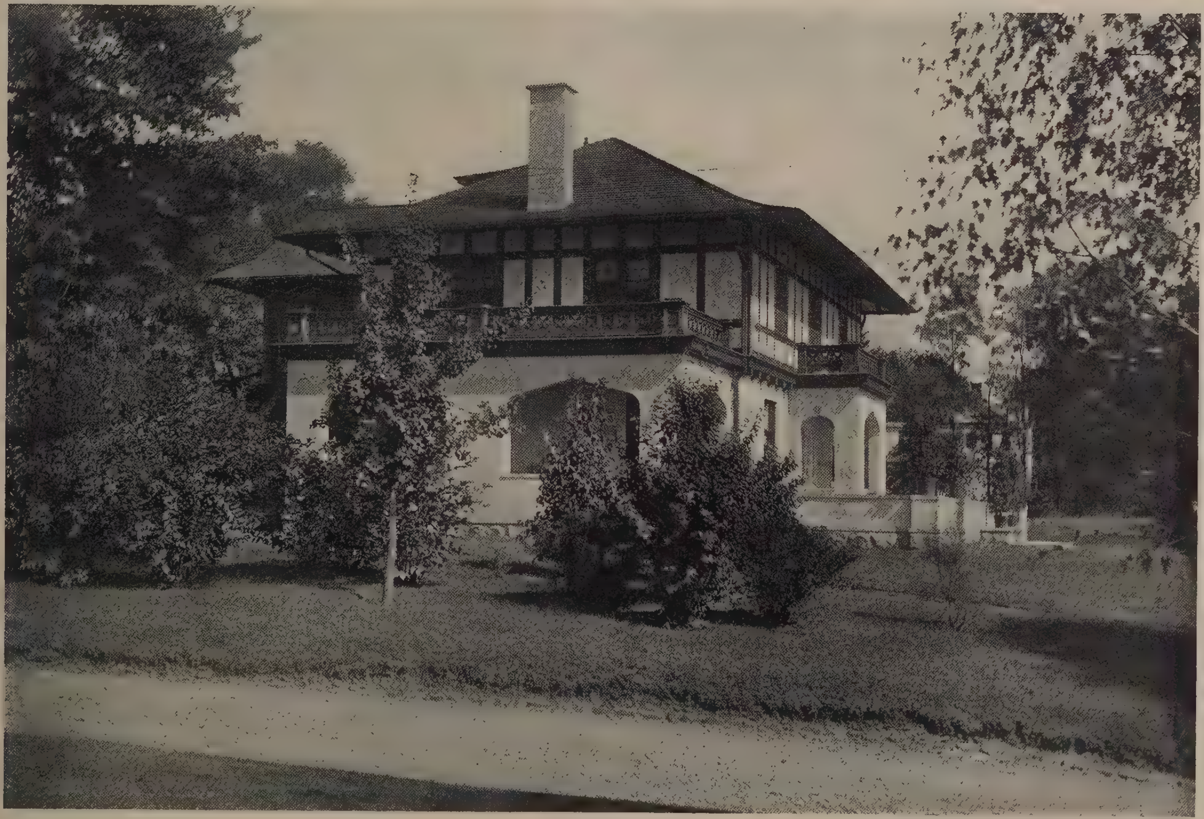

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COTTAGE, D. L. YOUNGS, SUMMIT, N. J. (For plans see pages 166 and 167.)

Wurts, Photo. Wm. K. Benedict, Architect.

MAIN HALL, COTTAGE, D. L. YOUNGS, SUMMIT, N. J.

THE ARCHITECT AND THE ENGINEER.

A. D. RUSSELL.

A QUESTION of some interest that applies to building in this country, is the extent to which engineering construction and appliances have changed their relations between the architect and his client. In many structures in which the requirements of iron or steel construction, of heating, ventilating, lighting, elevator machinery, motive-power, have to be considered and met, the architect's work has to be modified or overhauled ; in fact, in most of the great office buildings and factories the building work is subordinated to these requirements of the engineer and manufacturer. The structural and architectural elements present a small proportion to the labor necessary in fitting the building with these mechanical equipments. The building, in fact, is designed to protect and form a framework, so to speak, for the plant. Engineering firms and manufacturers prepare plans and working details and specifications for their several works, and these often considerably overlap the architect's duties. This combination of structural work and machinery installation has raised important questions as to the division of the design, as well as the amount of fees for the design and supervision of the work. In all business premises and warehouses iron or steel enters largely into the design, and the question may sometimes be asked whether it is more desirable from an economic point of view to employ an engineer or expert in steel construction, than an architect, in preparing the plans for the building ? The question, of course, has only arisen during the last decade or two. Before that no one thought of employing anyone except an architect in making the design of a building. There were few specialists who had studied building as a whole ; now there are many who design special buildings for their particular work. Architects live in rather revolutionary times. Many get employed not to evolve architecture, but to make a big concern that will pay a large dividend. It may be something in the shape of a huge theatre or warehouse or restaurant in which machinery forms a large part of the business. But what about the architect's fitness for designing and planning such a building ? Would not a theatrical manager or a restaurateur, with the help of an engineer or expert, turn out a better design, at least, as far as arrangement and construction go ? Such is the dilemma which awaits the modern architect in future enterprises. The man who can guarantee a paying concern or introduce the latest machinery or apparatus has the first chance. Of course, a competition inviting architects to send in designs for buildings of this mixed kind ignores the engineering, and in this way it often fails to give a satisfactory result. The promoters get a handsome-looking building, to which the mechanical part has to be fitted at great expense afterwards. A second contract has to be entered into, and then the errors of plan and structure reveal themselves. A great deal has to be altered and pulled about at much cost. Then the employers or the ratepayers find out the egregious mistake of not employing some specialist architect who would have understood the engineering as well as the building business, and so have saved perhaps thousands of dollars to the company or ratepayers. It would have been more tolerable in such a case to have employed an engineering firm to prepare plans, and then obtain the services of an architect to put them into pleasing form and proportions. This has been the experience of many.

Let us endeavor to begin by accepting certain principles for buildings of this complex character. In the first place, we cannot ignore the engineering element; it must be accepted, and the more honestly we deal with it, and make it a part of the design, the better. For certain classes of building—warehouses, hotels, high tenement structures, railway stations, &c.—the mechanical construction and mechanical equipment is of the essence. Next we have to consider how we can manage to combine the engineer's with the architect's design in the best manner. Two questions arise. Is it best to employ an architect to design the building outright, and an engineer to arrange the mechanical part and equipment of the structure after the first has been completed? or should an architect and engineer be jointly employed to design the building and fittings, each co-operating with the other in the preparation of plans and specifications before the contract is taken? The architect may, and often does, resent any interference with his design, in which case there is friction between the two factors; but it is more reasonable to acknowledge that latter mode is less open to failure, than the plan so frequently adopted of finishing the building to the architect's plan and then calling on the engineer to do what may be the principal part of the design. As a result numerous alterations are required by the engineer—walls have to be taken down, or girders and arches introduced, to let parts of the machinery in, or to allow for water and steam pipes; floors have to be removed or "trimmed," and various new foundations made for machinery, boilers, and dynamos. All these things can be avoided if the architect consults the engineeer at an early stage, before the plans and sections are inked in, or the specifications drafted. The architect and engineer would in fact be joint architects or engineers of the scheme. At the annual convention of the American Institute of Architects, a report was read on the overlapping of the professional duties of these professions. The report was drawn up after a conference with the American Society of Heating and Ventilating Engineers, a large and influential body, together with the engineers of various specialties and representative architects. One object of the conference was to amend the Institute's schedule charges, and it was recommended that the "minimum fee of the architect for portions of his work involving electrical, mechanical, and sanitary engineering, heating and ventilation, be made ten per cent. of the cost of those parts of the work; that the architect

Wurts, Photo. Wm. K. Benedict, Architect.

GENERAL VIEW, MAIN FLOOR, COTTAGE, D. L. YOUNGS, SUMMIT, N. J.

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LIVING ROOM FROM HALL, COTTAGE, D. L. YOUNGS, SUMMIT, N. J.

select engineering experts, and the latter render their services under the supervision of the architect." We do not think the professions can grumble at this arrangement; no doubt in important works of engineering and building it may be desirable to place the engineer on a footing with the architect, as in the manner we have hinted, by engaging him jointly with the architect, a course that would commend itself to the engineer. We believe such would be the feeling of the American Society of Civil Engineers and other engineering bodies interested. There is a heavy responsibility on each of the professions, even perhaps greater on the engineer. To take the case of heating and ventilating. Very complex and extensive arrangements are made in buildings of a public kind in the United States, which necessitate very close understanding and co-operation between the architect and engineer. In the large residences, offices, theatres, public halls, churches, and chapels, the architect's plans are considerably controlled by the heating and ventilating engineer. Let us take as a recent instance the arrangements made for these purposes in the latest of Chicago's office buildings, the Merchants' Loan and Trust Building, a structure of considerable area, and twelve stories in height. This building is warmed by steam distributed through the offices by the downward system of piping, with gravity return. A vacuum system of circulation and automatic regulation for temperature is provided, and a plenum and exhaust system is in use in the lower stories. The steam-boilers are in the basement. Three centrifugal fans had to be provided to blow air into parts of the building densely filled, and two exhaust fans in the basement. Six passenger elevators serve the main floors. The plans for this building could never have been prepared before the heating and ventilating arrangements had been settled by the engineer for the architect, as large exhaust and fresh-air ducts, in some cases thirty-four inches by eighteen inches, had so be provided for. Again, the Grand Central Station, New York, shows an extensive building containing a very elaborate mechanical plant, including an equipment of machinery for electric lighting, hydraulic elevators, and air-compressors, which occupy the basement. These plants must have considerably controlled the design, and employed a large number of experts and firms. These are features that must receive the closest study, which an architect could not possibly give single-handed.

We have said enough to show the necessity of the co-operation of the engineer with the architect in these undertakings unless serious overlapping and failure are to result. The co-operation should be based on principles that could be settled between the professional men in any particular case. What these should be cannot now be considered; the professional societies might consider the question and draw out a series of rules that could be followed. Such co-operation ought to be defined, and the responsibilities of each member stated, so that disagreement may be obviated. Some-

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times the architect would be the responsible individual, but when the mechanical work preponderated or dictated the design, then the engineer would become the authoritative head. The question is a much larger one than can be discussed in one article; there are numerous kinds of co-operation, for each one of which special rules ought to be made, also varying degrees of design in which the engineer or expert, as representing the mechanical element, is concerned. In a few buildings the architectural character assumes a definite or pronounced form ; in others the mechanical or engineering element must necessarily claim precedence.

Too much is now left to chance and accident in these matters. The architect supervises a large building and separate firms are employed under his general supervision for the several fittings for heating and ventilating and plumbing. They are no doubt highly respectable firms ; but with the greatest care and a skillfully-prepared specification, mistakes and omissions will occur, which are too often found out after the occupation of the building. In many other instances of structures on which sub-contracting is allowed great friction and overlapping occur. The question often rests entirely with the architect, and it is to his judgment the appeal should be made. If our buildings are to represent the combined skill of the engineering expert as well as the architect, it is only fair to both that they should be brought into contact at an early stage of the work, and labor harmoniously together in the preparation of the design.

AS TO the details and little points that constantly arise, if there is not the methodical habit of carefully looking into them, things seemingly insignificant are easily overlooked, resulting in endless trouble to both the client and the architect. In regard to habits of method in business, I believe that the men with methodical habits usually get through infinitely more work, and do it better and quicker than those lacking in this respect. Methodical habits tend to avoidance of worry, for an architect's life consists, to a large extent, of attention to details of all kinds, which should all have methodical attention in turn. And there is nothing so prejudicial to artistic effort as worry. It should be avoided in every way: a quiet and restful mind is essential to the right exercise of thought and creative power.

FIREPROOFING.

ONE of the greatest faults of the modern systems of fireproofing is the thinness of the covering. Any non-conducting incombustible covering will prove reasonably efficient if it is thick enough, and thoroughly secured to the columns and girders. The reason the coverings have been made so thin is this: In the transposition from materials of low resistance like stone and brick to materials of high resistance like iron and steel, the difference in the areas required for walls and piers was so great and the space saved so valuable, that the temptation has been to restrict the space occupied by the columns to the minimum. Consequently as little has been allowed for the column and girder coverings as the law allowed, and as a result a good deal of the so-called fireproof covering is insufficient, and in many instances improperly applied. In the fireclay covering and other rigid materials the common practice is to unite the component parts with mortar. This is not sufficient. Coverings of any kind of rigid or plastic materials should be fastened on with wire netting to give fibrous qualities, and prevent

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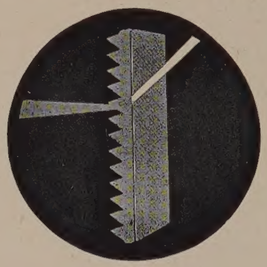

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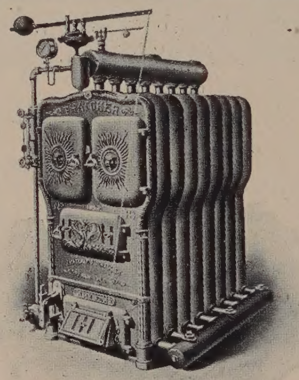

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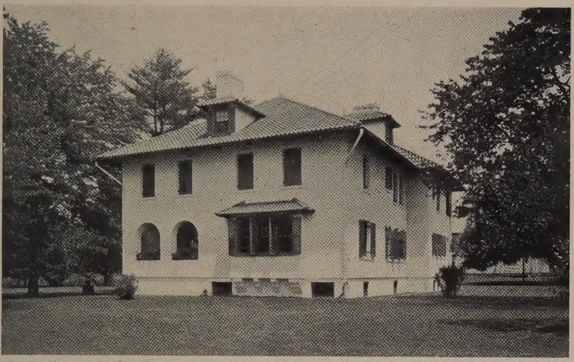

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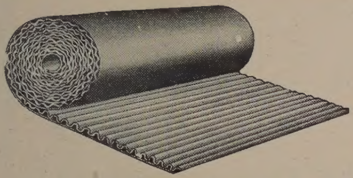

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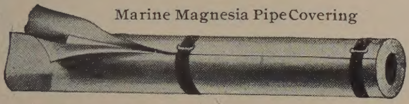

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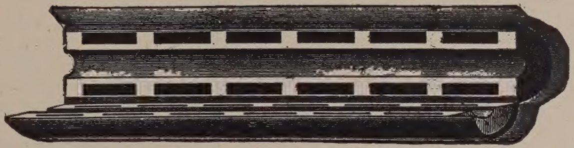

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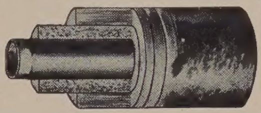

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separation in case of blows sufficient to break the covering. Semi-porous terracotta can be heated to redness and then plunged into water without apparent disintegration, and is probably one of the most durable materials which can be applied to the protection of ironwork from heat. This knowledge of its virtue, however, has led the manufacturers and the architects to decrease the thickness of the covering to such a point that it no longer answers its purpose in a satisfactory manner. This is particularly true ot the covering of the lower flanges of the floor-beams, where the covering is only about an inch in thickness. In this detail, another great sacrifice is made—viz., that of air-cells. Dead air space is a very poor conductor ot heat; but this valuable property has been sacrificed to keep the floor arches of the minimum thickness, notwithstanding the great loss of efficiency in the fireproof covering caused thereby. A material which combines many good qualities useful in fireproofing is Portland cement, which, it mixed with sand, forms almost an admirable fireproofing material applicable in a plastic state on a wire-mesh fabric to any structural member. The high temperature at which Portland cement is made indicates its fire-resistance. It is also a poor heat conductor, and, if applied properly and in sufficient thickness, with air spaces between the coverings, will answer the purpose of fireproofing very well. It has, however, the defect of its qualities—that is, it can be applied so readily and so easily as to require careful inspection to be sure it is properly mixed and then properly put on. The fireproof floor is usually made of porous hollow tile, expanded metal and concrete, or wire-mesh arches imbedded in concrete. All these floors are good ones if they are carefully put in place. The porous hollow tile can be readily laid, requiring merely a centring of flat boards propped up under the floor-beams. The tile is strong and easily laid and easily inspected, and defects in tile and laying can be readily detected.—*William Copeland Furber.*

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WITH the June meeting, which took place on Tuesday, June 3rd, the League closed its meetings for the season with a dinner at the Rocking Stone Restaurant in the Zoological Park.

Previous to the dinner a number of members made a tour of both the Zoological Park and the Botanical Gardens under the guidance of the current work committee. The meeting was of a purely social nature and little business was transacted. President Hardenbergh presided and announced that since the last meeting the League had lost two of its active members by death, Mr. Walter Tallent Owen and Mr. James Brown Lord.

Upon motion of Mr. Israels the president appointed two committees of three members each, with power to draw up suitable resolutions expressing the sorrow of the League at the loss of these valuable and talented members, and the committees were ordered to transmit the resolutions to the families of the deceased.

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